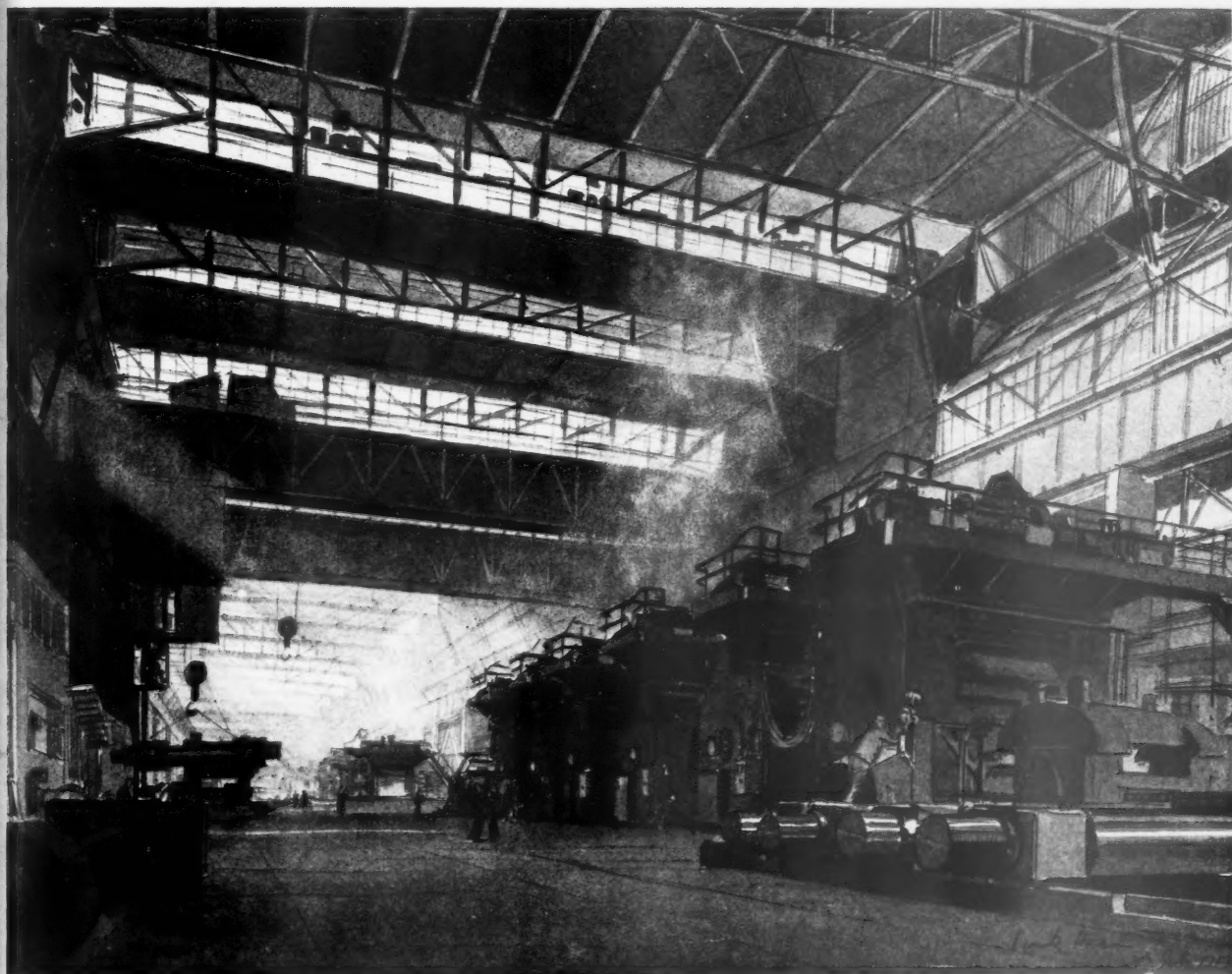
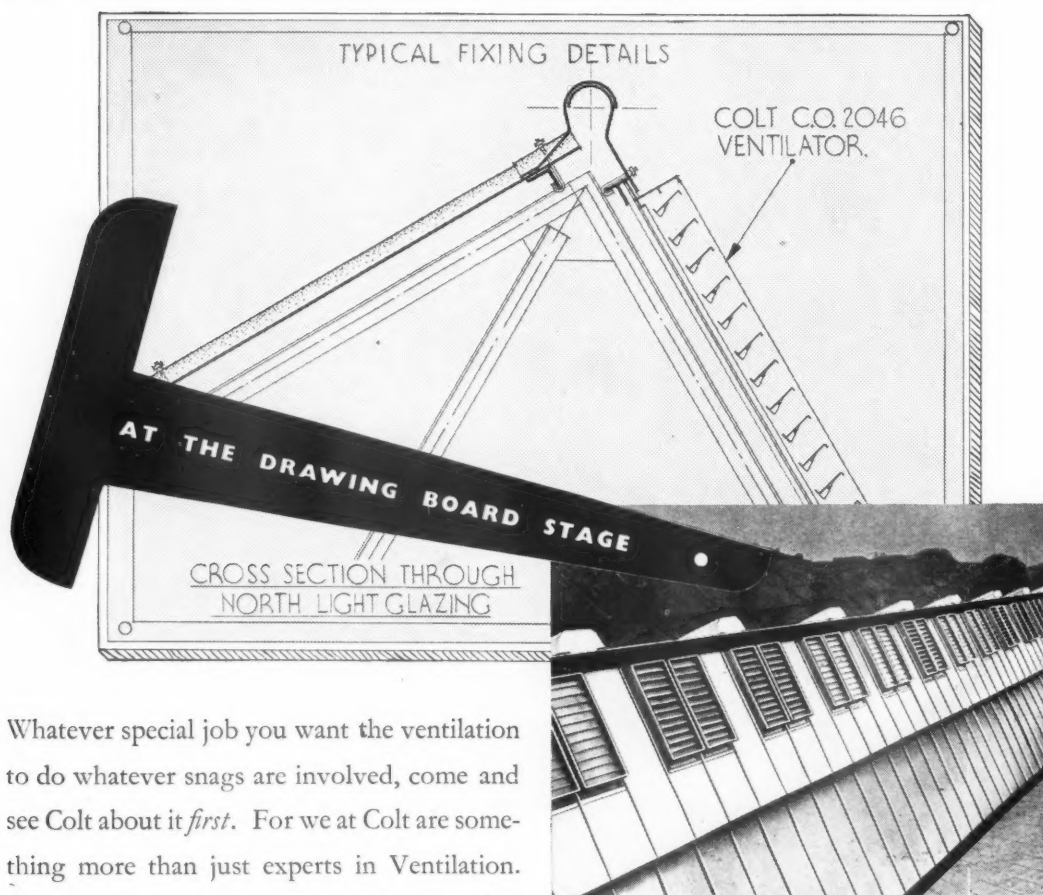


66 PORTLAND PLACE LONDON W1 • TWO SHILLINGS AND SIXPENCE



The Abbey Steelworks, Margam, South Wales. Consulting Architects: Sir Percy Thomas and Son [F/A]. From a drawing by Frank Hoar [F]

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THE JOURNAL OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

THIRD SERIES VOL 58 NUMBER 11 : SEPTEMBER 1951 : 66 PORTLAND PLACE LONDON W1 : TWO SHILLINGS & SIXPENCE

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R.I.B.A. Sessional Papers and Lectures 1951-52

The Sessional papers arranged for the forthcoming session have that wide variety of interest which has characterized the programmes of other years. The session begins with the President's Inaugural Address on 6 November, and at the same meeting the London Architecture Bronze Medal will be presented to Messrs. A. J. P. Powell and J. H. Moya [A/A] in respect of the Westminster City Council's Housing Scheme at Pimlico. On 11 December Dr. Nikolaus Pevsner will give a paper on *Schinkel*, who might perhaps be described as the Sir John Soane of Central Europe, though his influence on his contemporaries and successors was somewhat greater than Soane's. *Expression in Modern Architecture* is the subject of a paper to be given by Mr. Frederick Gibberd [F] on 8 January, when the Awards of Prizes and Studentships will be announced. Those who remember Mr. Gibberd's excellent paper on *Three Dimensional Aspects of Housing Layout* given at the R.I.B.A. Housing Conference in 1948 will rightly expect a scholarly and original paper on this occasion. 'Students' night' is on 5 February, when the President will deliver his Address to Students, and Mr. D. H. McMorran [F] will give a criticism of the work submitted for the Prizes and Studentships. On 4 March, Professor Sir Patrick Abercrombie [F] will discuss generally the achievements and failures of town planning in modern times under the title *Twenty Years After*. So great an authority and so engaging a speaker will ensure a full attendance of members. 'Royal Gold Medal Night' is 1 April, and the Annual General Meeting will be held on 6 May. The last sessional paper is *The Gothick Taste* by Mr. J. Isaacs, scholar and broadcaster.

The technical lectures by experts which have been so useful a feature of Royal Institute activities in recent years cover the usual wide range of subjects. These include concrete finishes, fire protection, the influence of design on productivity, space frames and stressed skin construction, British standards and the architect, and a paper on *Some Scientific Aspects of the Design of the Royal Festival Hall* by Dr. J. L. Martin [F]. Both sessional papers and lectures will be published in full in the JOURNAL, though members who have special interest in any subjects are advised to attend the meetings, because space does not allow the JOURNAL to reproduce all a lecturer's slides. The first lecture *Concrete Finishes* by Mr. J. G. Wilson [A], architect specializing in surface finishes on the staff of the Cement & Concrete Association, is on 23 October.

R.I.B.A. Information Bureau

Visitors to any information bureau are disappointed if the staff can not answer any and every question, including such things as the probable state of the weather next day and the best place to have a cup of tea. Both these queries, with many others, have come the way of the R.I.B.A. Information Bureau, which officially opened for business on 4 June. Situated on the main first floor landing at 66 Portland Place, its setting has been a counter specially designed by Mr. R. Henniker [F].

The principal purpose of the Bureau has been to provide visitors from overseas during the Festival period with any information they might require on matters of architectural interest. The Bureau was therefore equipped with the usual maps, guides, time tables, etc., while particulars of some 500 'modern' buildings (i.e. those less than 20 years old) were obtained from their architects. These were then card indexed under appropriate headings. The arbitrary limit of '20 years or under' was fixed partly because the line must be drawn somewhere, but mostly because older buildings are to be found catalogued already in text or guide books. Lists were prepared from this card index according to building type and location for distribution to enquirers. Most overseas visitors either wanted to study a special subject or had a fixed itinerary and wished to see any buildings of interest on it.

An analysis of enquirers reveals the following: Canadian 13, U.S.A. 12, Australian 11, Danish, South African, German 5 each, Swedish, Dutch 4 each, New Zealand, French, Norwegian, Indian 3 each, Brazilian, Italian, Austrian 2 each. There was one citizen from each of the following countries: Finland, Greece, Israel, Spain, Egypt, Fiji Islands, Trinidad and Hungary (the last an expatriate living in Switzerland). This list does not include organized groups, nor take account of the many enquiries by telephone or from citizens of the United Kingdom.

Practically all visitors appeared to be warmly grateful for the information and help they received, though occasionally their questions severely taxed the staff of the Bureau. For example, where an R.I.B.A. badge, suitable for tacking on to a cricket blazer, could be obtained; or details of the development of fish warehouses and methods of distribution during the past century. The Bureau must officially close with the end of the Festival. Much of the information gathered will serve as a permanent source of reference on modern buildings, while the experience gained will be invaluable in welcoming future foreign visitors.

A.B.S. Ball

Last year the Centenary Ball of the Architects' Benevolent Society was such a success that it was decided at once to hold another this year. Also, because the demand for tickets was so great that the supply ran out a month before the ball, the largest ballroom at the Dorchester Hotel has been booked. This has a capacity of 900 for dancing and supper.

The 'appointed date' for this year's ball is Wednesday 12 December, and the tickets are two guineas each, including supper. Members who wish to bring parties would be well advised to make preliminary arrangements. A tear-off application form for tickets will be issued as an inset in the October JOURNAL.

Arrangements are well advanced. Dance music will be supplied by Charles Ernesco and his No. 1 Dance Orchestra. The side-shows and competitions, which were such a feature of last year's ball, are being increased in number and given a peculiarly architectural flavour. It is hoped to repeat the remarkable success of the cabaret. Full particulars will be published in the October JOURNAL; meanwhile members should make a note of the date. Last year the ball raised £750 for the Centenary Appeal Fund (including a generous donation of £300 from Mr. Hugh Montgomery [Hon. A]). This year the Committee hope that the larger capacity of the ballroom will enable members to attend in greater numbers with corresponding benefit to the Appeal Fund.

Retirement of Professor Budden

The University of Liverpool have announced that Professor L. B. Budden, M.A. (L'pool) [F] is relinquishing the Roscoe Chair of Architecture on reaching the retiring age. The Liverpool School of Architecture has for so long enjoyed the guiding and inspiring presence of Professor Budden that it is difficult to imagine the school without him. As deputy to Professor Reilly and later as Roscoe Professor, he has seen the school grow to its present great stature and all Liverpool School graduates will agree that his part in that growth has been exceedingly important. The thousands of ex-students who learned their architecture under the guidance of Professor Budden will remember him with affection and gratitude and join with us in wishing him well in his retirement.

The Library Group

The R.I.B.A. Library Group continues to flourish and meets generally on the second Monday in each month. At the Annual General Meeting held recently Mr. John Summerson [A] was elected Chairman and Mr. Kenneth S. Mills [A] and Mr. R. W. Hare [A] were re-elected Hon. Secretary and Hon. Treasurer respectively.

The Group propose to devote the meeting on Monday 8 October to Sir Edwin Lutyens. The speaker will be Mr. A. S. G. Butler [F], who, with Mr. Christopher Hussey [Hon. A] produced the recently published Lutyens Memorial Volumes, a review of which appeared in the August JOURNAL.

The Institution of Royal Engineers

The Institution of Royal Engineers at Chatham has brought to our notice the fact that architects who held Emergency Commissions in the Royal Engineers during the various wars are eligible to become either full or associate members of the Institution. The entrance fee for full membership is £1, and the annual subscription, which is based on rank, varies from £1 to £2. For associate members there is no entrance fee and the annual subscription is £1. Full members receive the Royal Engineers' Quarterly Journal, the monthly supplement to the R.E. Journal, and the R.E. List of Free Issues and any other Institution publications. Associate members receive copies of the R.E. Quarterly Journal. Full particulars can be obtained from the Secretary, The Institution of Royal Engineers, Chatham.

The British Architects' Conference 1952

As previously announced, the 1952 Conference is to be held in Edinburgh; the dates have now been fixed at 25 to 28 June. There may be some difficulty in booking hotel accommodation if this is left to a late date because the demands for it are heavy in Edinburgh at that time of year. Members who propose to attend are therefore advised to book their hotels early, preferably before 1 January next. The usual list of hotels will be published shortly in the Notes and Notices column.

R.I.B.A. 'Housing Needs of Old People' Exhibition

The 'Housing Needs of Old People' Exhibition is now touring the provinces, and bookings have so far been arranged for it to visit some twenty different centres. The Glasgow Institute of Architects is sponsoring the Scottish showing of the exhibition, which will be at the Scottish Building Centre, Glasgow, for a period in October and early November next.

'Your Town'

'Your Town', an Exhibition of the Draft Development Plan, is being held by the West Ham County Borough Council at the Central Library, Water Lane, E.15, from 1 to 28 September 1951. Hours of opening are 12 noon to 8 p.m., week days only.

The Exhibition is intended to publicize the Draft Plan which has been prepared by the Council as required under the Town and Country Planning Act 1947, and to invite comment before it is prepared in its final form for submission to the Minister of Local Government and Planning.

The main sections include Housing, Education, Open Space, Industry, the Development Plan itself and a study of the treatment of Comprehensive Development Areas. Examples of redevelopment in being, or already carried out by the Council, are also illustrated. The Exhibition has been organized for the Council by the Borough Architect and Planning Officer, Thomas E. North [F].

The Mermaid Theatre

An Elizabethan theatre has been recreated in the ruins of what was once the assembly hall of St. John's Wood School. This stands in the garden of Mr. Bernard Miles, the theatrical producer. To arrive at authentic details Mr. and Mrs. Miles and their friends undertook a great deal of historical research, scores of authorities being consulted. The final form and decoration of the building are the result of collaboration between Mr. Michael Stringer and Mr. C. Walter Hodges.

As the theatre is on a private estate, performances can be given on no more than twenty-eight days in each year, and tickets have to be given away in return for donations. A season started on 9 September and will end on 9 October, and will consist of twenty performances each of *Dido and Aeneas* and *The Tempest*. Madame Kirsten Flagstad, who has given warm support to the project since its early days, will sing the part of Dido, and most of the parts are being performed by eminent actors and actresses. The late Ivor Novello was an ardent supporter of the scheme.

The stage is built in sections and can be dismantled and rebuilt in twenty-four hours, so that 'The Mermaid' can be accommodated in any hall or even in a marquee. It is intended to tour the theatre as well as hold an annual season in St. John's Wood. The stage has a tiring house, traps, staircase to a fly platform, tackle for aerial productions, and a series of curtains to suit various types of play—for example, black for tragedy and red for historical plays.

R.I.B.A. Diary

TUESDAY 23 OCTOBER. *Concrete Finishes*. J. G. Wilson [A].
TUESDAY 6 NOVEMBER. General Meeting. The President's Inaugural Address. Presentation of London Architecture Bronze Medal.



Swedish timber houses for the Forestry Commission at Glenbranter Forest, Argyllshire. Architects: Gratton and McLean [A/A]

The Work of the Scottish Special Housing Association

Chief Technical Officer: J. Austen Bent, Dipl.T.P.(Leeds), A.M.T.P.I., F.R.I.A.S. [A]

In 1937 the Secretary of State for Scotland created the Scottish Special Areas Housing Association, Ltd., to help local authorities in distressed areas (then known as Special Areas) in Scotland to increase the supply of working-class housing. The Association was registered as a company with no share capital, as a matter of convenience, and its constitution was framed to bring it within the category of 'Housing Association'.

Because there was an acute shortage of bricklayers and bricks at that time, the Association was required to avoid the use of bricks and pioneer in the development of non-traditional methods of house construction. The work it then did on no-fines concrete construction was a notable contribution not only to housing in Scotland but also to housing in England when, in the post-war years, the same problem of shortage of bricklayers and bricks was restricting the output of houses. The Association also built a large number of timber houses.

The 1938 Housing (Scotland) Act extended the field of the Association outside the special areas and the name was accordingly altered to the present one. In 1939 the Association was asked by the Secretary of State for Scotland to erect and manage five school camps which were first used by children evacuated from towns during the war, but which have now

reverted to their original purpose; since 1947 these camps have been managed by the Scottish National Camps Association. Also during the war the Association built and managed several hostels in the West of Scotland and built houses at Rosyth for the Admiralty.

In 1944 the Government decided to entrust the Association with a programme of 100,000 houses or approximately a fifth of those estimated at the time as being needed in Scotland. The intention was to assist those local authorities whose need was greatest by supplementing the number of houses built by those authorities without correspondingly increasing their financial burden. Therefore the 1944 (Scotland) Act provided that in addition to the ordinary Exchequer housing subsidies the Association would receive also from the Exchequer additional subsidies equivalent to contributions from rates. The Department of Health specifies the areas where houses are to be built and lays down the extent of the Association's programme. The houses are owned and managed by the Association although where possible arrangements are generally made with local authorities to collect the rents and to attend to minor repairs of the houses in their areas for a percentage fee based on rents. The tenants are nominated by the local authorities from their lists of applicants.



No-fines houses for general needs in course of erection by direct labour at Mains of Fintry, Dundee. Architects: Association's staff

An interesting feature of the Association's activities is its direct labour organization. Although considerable use is made of outside building contractors in the ordinary way, the Association builds a large number of its own houses, and services practically

the whole of its sites by direct labour. It is also available to act as contractor for any local authority which finds it difficult to obtain satisfactory tenders from private contractors, although its services have not yet been sought in this connection. Before the Association can act in this manner, however, the local authorities must obtain the consent of the Secretary of State for Scotland in each case and must pay the Association the cost of the houses, plus an allowance for the Association's overheads. The houses, in such a case, would belong to the local authority, who would receive the ordinary Exchequer subsidies and meet any deficit.

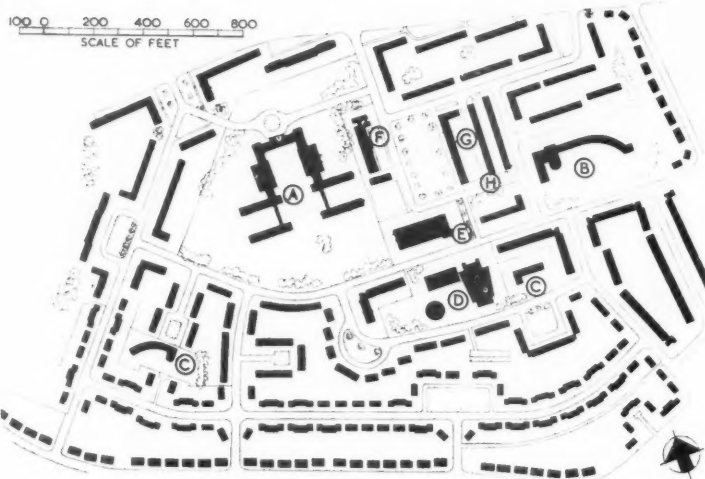
The Association has a special field of activity in providing houses for miners. It works with the Department of Health and the National Coal Board by erecting houses for miners, thus facilitating their transfer from areas where coal mining is diminishing to areas where coal mining is being developed or expanded. In these cases the houses are owned and managed by the Association and no contribution is required from the local authority. The Association also does much the same with the Board of Trade in the case of housing required in connection with new factories, including houses erected for persons of managerial status.

Another group for which the Association builds is represented by the Ministry of Supply, War Office, Admiralty, Forestry Commission, Post Office and Northern Lighthouse Board, for whom it provides houses on an agency basis, the costs being met by the bodies concerned.

Finally, the Association undertakes field work in housing research with the Ministry of Works and Ministry of Fuel and Power. Information derived from this work on such matters as building methods, new materials, site organization, costs, heating installations, etc., is made available to the Department of Health for Scotland.

The Association is therefore a unique form of housing organization, differing in many respects from its nearest counterpart, the Northern Ireland Housing Trust; there is no body at all comparable to it in England nor, so far as we know, is there one overseas.

The illustrations and plans reproduced in this article are intended to give some idea of the scope of the Association's work and the types of building it provides. There is of necessity wide variety in it. Building for the needs of lighthouse keepers and forestry workers contrasts for instance with providing houses for miners or for the general needs of the population. Also, the supply of contracting service, labour and materials may vary from efficient and abundant in the urban areas to virtually non-existent in remote parts of the country. The Association has to conform with the requirements of local building, planning, drainage and road authorities, including those peculiarly Scottish bodies, the Dean of Guild Courts—all of which appear to be not less divergent in their requirements than in England. Therefore the work of the Association is anything but a matter of



Layout plan of Toryglen housing scheme. Key: A, Secondary School, Primary School and Nursery School forming a single unit. B, Primary School. C, Nursery Schools. D, Community Centre. E, Church. F, Site for public buildings. G, Shops, facing the public buildings across an open space. H, Garages behind the shops. The photograph is of a typical block of houses at Toryglen

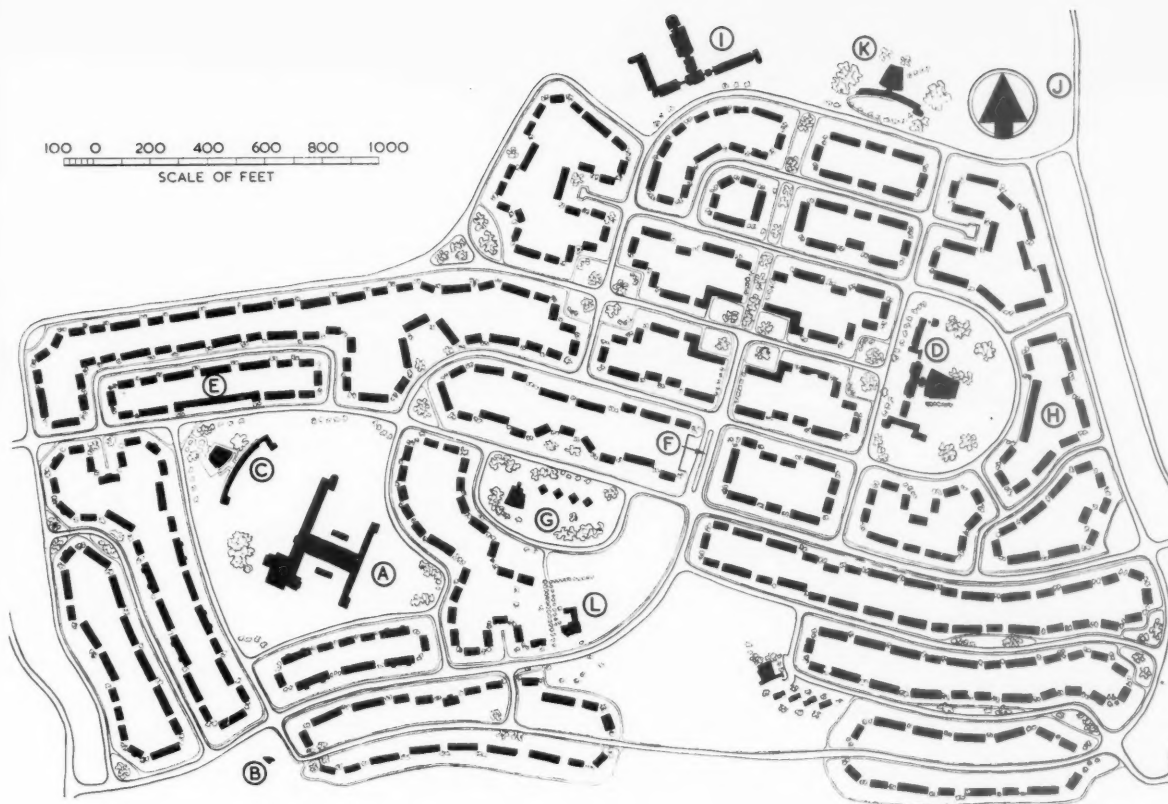
repeating a few standardized house plans though, of course, repetitive methods are used for economy as much as possible.

The Association is governed by a Council of Management of eight ordinary members and the chairman, Mr. A. G. McBain, Chartered Accountant, whose appointments are subject to approval by the Secretary of State for Scotland. One member is a Treasury official. The General Manager is Mr. S. A. Findlay, O.B.E., M.Inst.C.E., F.R.San.I., M.I.Mun.E.; the Chief Technical Officer and Assistant General Manager is Mr. J. Austen Bent [4] and the Secretary and Finance Officer is Mr. George Ross. The organization consists of seven sections, namely: Administrative, Finance, Architects, Civil Engineering, Quantity Surveying, Land and Property Management and Direct Labour Organization.

The Association is required to consult closely with local authorities and co-operate with them in the selection of sites ;

consultations on such matters as methods of construction, sizes of houses to be built and management arrangements need frequent meetings and much correspondence with local authorities. The chief work of the Administrative Section is to conduct all negotiations with local authorities, site negotiations, approval of plans, placing and progressing of contracts, etc. Alterations in policy and housing legislation and controls are also its business. The administrative section also obtains approval of the Department of Health regarding sites, plans, layouts, roads, services, contracts, etc.

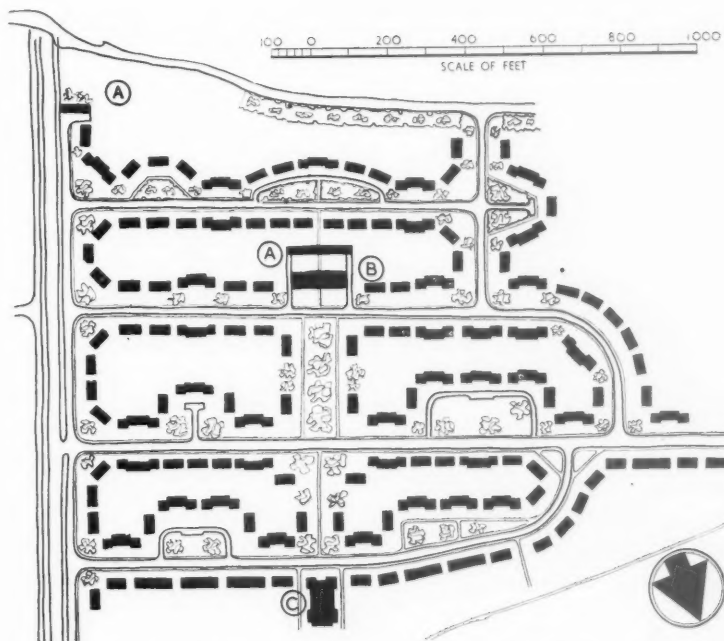
The Finance Section keeps all finance records, an important duty being the costing system of the Direct Labour Organization. Being a registered company, the Association is required to have its accounts audited and they are also subject to regular scrutiny by the Department of Health for Scotland. Salary scales are subject to Departmental approval.



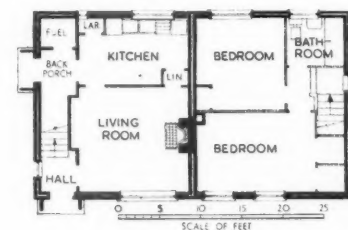
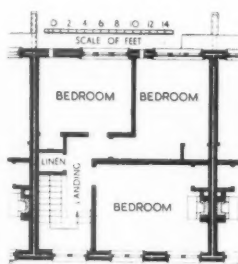
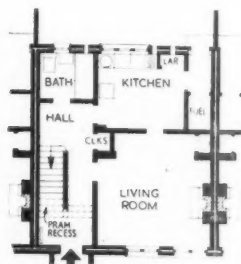
Layout plan of the Mains of Fintry housing scheme at Dundee. Key: A, Primary School. B, Church site. C, Nursery School. D, Community Centre. E, Shops. F, Bus Station. G, Nursery School. H, Shops. I, Primary School. J, Church site. K, Nursery School. L, Mains of Fintry (the existing farm house)

A proportion of the architectural work is undertaken by the Association's salaried staff, the remainder being carried out by private architects. In some cases local architects are employed for supervision of schemes designed by the Association's staff; for example, where too much travelling by the staff would be involved. The Architects' section is divided into two main sub-sections: (1) the Regional sub-section which designs the layouts of the developments, including neighbourhood units, and carries out normal building work; (2) the Planning and Design sub-section which designs new house and flat types, including those employing non-traditional methods, and undertakes research in collaboration with the Department of Health and the Building Research Station.

For the execution of schemes Scotland is divided into four regions, each under the technical supervision of a regional architect, who co-operates closely with the regional engineer, surveyor and administrative officer. These officials form a regional team which is responsible for all the housing projects in a region. The team also maintains close contact with the

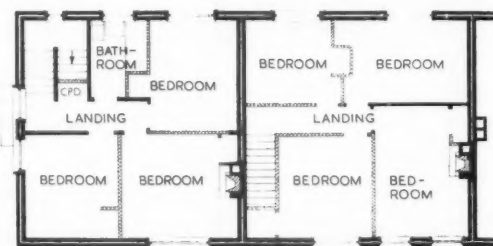


Layout plan of Sauchenbush housing scheme at Kirkcaldy. Key: A, Lock-up Garages. B, Shops. C, Church. The three layout plans reproduced on these two pages have been selected as typical of the larger schemes undertaken by the Association. There are also numerous small groups of a few houses each

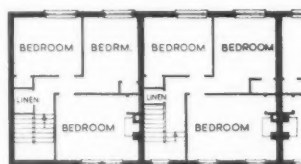
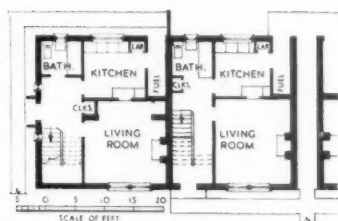


Typical four apartment traditional houses in a block of four and plans of the central houses in the block

Plans and elevation of typical three apartment traditional semi-detached houses



Typical five apartment traditional houses in a block of four with pends (central passages)



Plans of the end and inner houses in a typical block of ten four apartment traditional houses with pends (central passages). This drawing is taken from a scheme built on sloping ground at St. Leonard's, Dunfermline, the block being stepped up and staggered with 4 ft. 6 in setbacks at party wall lines as required by the slope of the ground

officials of the local authorities in whose areas it operates.

As with the architectural work, the civil engineering is carried out partly by the Association's staff of engineers and partly by private firms of engineers. The Civil Engineers' section also does all survey work and makes arrangements for services to the sites. Roads have to be constructed to specifications agreed with local authorities so that they can be taken over and maintained as public streets.

In the Quantity Surveying section care has been taken to see that the customary position of neutrality in relation to contracts is maintained. Private firms are employed in addition to the Association's staff of quantity surveyors. The section has special duties in connection with direct labour contracts. These include preparation of bills of quantities, measuring work in progress, preparing valuations of work done and analysing final costs. It undertakes a technical audit of all contract

accounts and records statistical information of costs. The technical audit has been found to be of great value to the Association.

The Land and Property Management section undertakes all negotiations in the acquisition of sites. On the management side—which employs a number of women housing managers—it operates the usual rent collection, repair service and social work. Most of the houses owned by the Association are managed by local authorities for a commission of approximately five per cent. on the rents collected; in these cases minor repairs are done by the local authorities and major repairs, including periodic repainting, by the Association.

The Direct Labour Organization began in a small way in 1937. At that time the principal method of house construction was no-fines concrete and it was found desirable to carry out this method of walling, together with the joinery work, by direct labour under a manager who was experienced in it. After the war it was decided to extend the scope of the Organization and this was done in 1946.



Traditional houses for miners built by direct labour at Harthill, Lanarkshire. Architects: Association's staff



Traditional houses for miners built by direct labour at Prestonpans, East Lothian. Architects: Association's staff



Atholl steel houses for miners at Tillicoultry, Clackmannan



'Dunedin' houses at Aberdeen. Site architect: L. Durnin [4]



Canadian timber houses, Douglas. Site architect: A. H. Mottram [F]



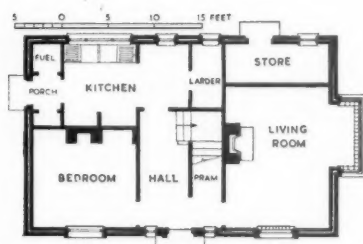
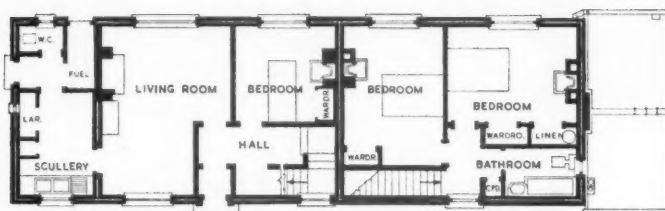
Weir steel houses for miners, Bathgate, West Lothian



Traditional houses at Elderslie, Renfrew County. Architects: Association's staff



Traditional houses for managers, Bothwell, Lanarkshire. Architects: Association's staff

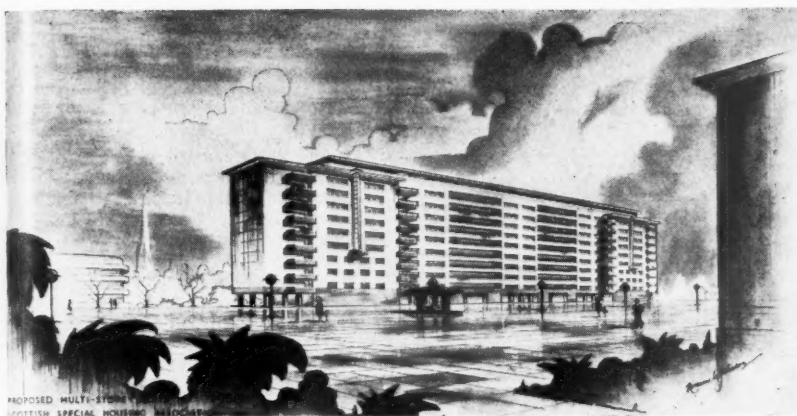


R.I.A.S. traditional type 3 houses at Belmont Avenue, Ayr. Site architects: Stevenson and Ferguson, A/A.R.I.A.S.

Traditional houses for forestry workers built for the Forestry Commission. Above and left are views and plans of a scheme at Braeval, Aberfoyle, Perthshire. Architect: Peter McLean, A.R.I.A.S. Middle left: plans of a head forester's house which has a mansard upper story

The Organization is directed by the construction manager and has six main departments, namely: estimating, construction, buying, plant and transport, labour and welfare, and the operation of incentive schemes. The Treasury have agreed to a capital expenditure not exceeding £600,000 to be incurred by the Organization and advance the money at 2 per cent. per annum interest, the Association being allowed to draw and repay the money as and when it wishes. Accounts, separate from those of the Association, are submitted to the Department of Health for Scotland to enable the Treasury to determine the financial results of the Association's activities as a building and civil engineering contractor in comparison with the prices of private contractors. Estimates are submitted to the Department of Health, who only approve them when they compare favourably with current contractors' tenders.

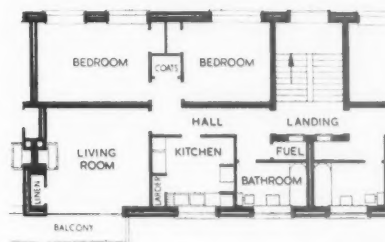
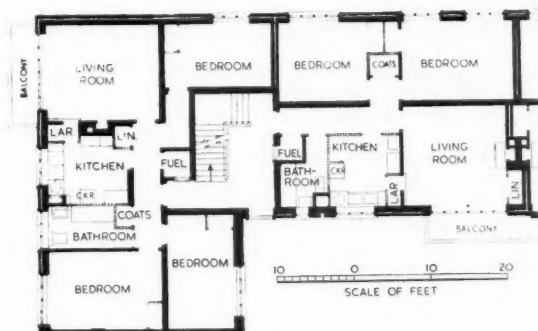
Apart from the question of speed in building, the Direct Labour Organization must be judged by its financial results. These hitherto have been good, considered solely as a building and civil engineering business. There are, however, several advantages which accounts can not state. There is an entire absence of the sense of bargaining between two sides which is normal to the architect-contractor relationship. Experiments and variations can be made without fear that their true cost may not be forthcoming. Work can be started quickly without the delays natural to tendering and contract arrangement. Jobs in remote districts, where contracting service and skilled labour are scarce or non-existent, can be undertaken. The experiences of the Organization in executing designs are available to the architects' and engineers' sections so that future modifications aimed at achieving lower costs or better results can be made readily. At the same time the Organization is 'kept on its toes' by the practice adopted by the Department of Health of comparing its costs with those generally prevailing.



Perspective drawing of first sketch designs for nine-storey flats to be erected on various sites
Architects: Association's staff



Perspective drawing of a first sketch design of three-storey flats for general needs to be built at Glasgow. Architects: Association's staff



Plans of typical three- and four-storey flats showing the planning of four apartment units at the ends of the block

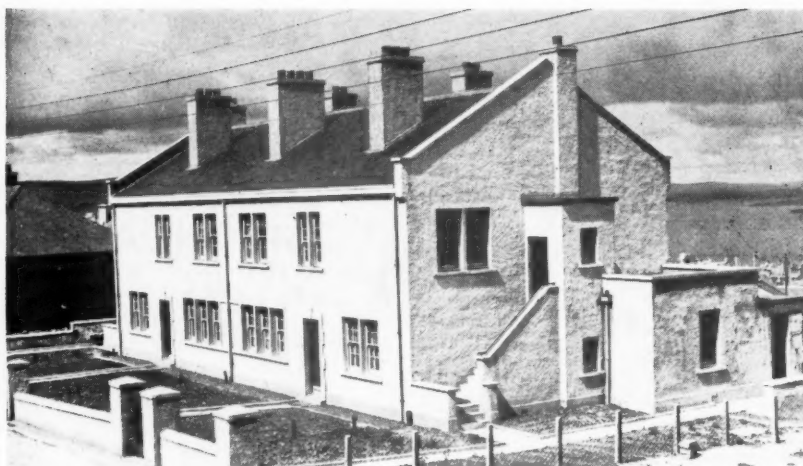
The Association also differs from many other housing bodies by itself covering the fire risk of its houses. Annual premiums for each house are paid into a separate fire insurance fund from which any costs arising from fire damage are met. The fund at present has a relatively substantial balance. A superannuation scheme for the staff is operated by the Association itself.

An interesting feature of the Association's work is its experimental site at Sighthill, Edinburgh. This development includes a large number of experimental types of construction, both traditional and non-traditional, which are built not only so that the Association may gain experience

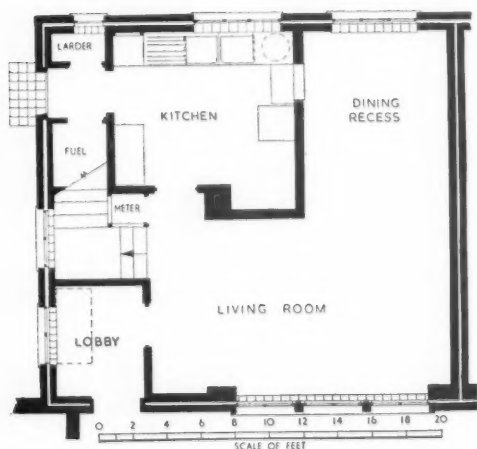
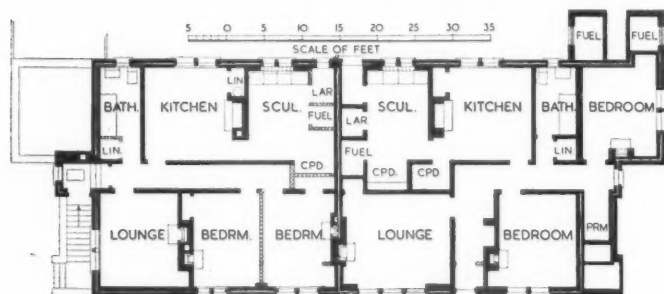
from them but also to serve as demonstrations to local authorities, to whom the results are made freely available. The experiments are designed primarily to overcome shortages in materials or labour and to reduce costs. Close co-operation is maintained with the Building Research Station and Ministry of Works. The Association has also built houses for the Ministry of Fuel and Power for house-heating experiments; plans of one of these houses are reproduced on page 422.

Although the Association is now freed from the original restriction on the use of traditional methods of building, it recognizes that, with the building industry fully

employed, the Association can best contribute to increasing the annual output of houses by concentrating on methods which avoid as much as possible the use of normal building trade skilled labour. As a result, the Association has had great experience of a wide variety of non-traditional or prefabricated methods, probably greater than that of any other housing authority in the United Kingdom. The Association has paid a good deal of attention to overcoming general shortages of materials, particularly by the use of pre-stressed concrete joists, composite timber and steel joists, the use of gypsum panels for the inside skin of cavity walls and methods



Traditional houses for the Northern Lighthouse Board at Lerwick, Shetland Isle. Photograph, elevation and plan of ground and upper floors. The building contains four flats. Architects for the type: Association's staff. Site architects: A. A. Foote and Son [F/A]



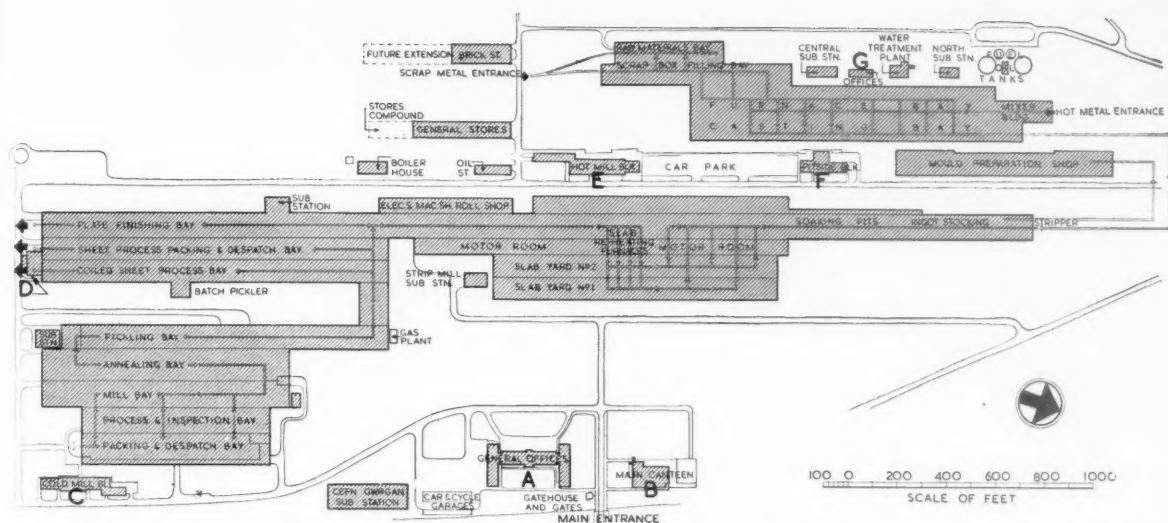
of fixing plaster board other than with timber strapping.

Shortages, cuts in capital expenditure and other tribulations common to post-war building have affected the Association as much as they have all housing authorities. Nevertheless, since the end of the war the Association has built 14,456 dwellings and at present has a further 7,108 contracted for, of which 5,941 are under construction; a further 6,195 are in the preparatory stages. As regards rents, the average for a four-apartment house, excluding occupier's but including owner's rates, is £32 15s. per annum, or rather more than the average charged by local authorities—whose rents however are rising. Houses owned by the Association are protected under the Rent Restriction Acts.

The staff totals about 190. To ensure that work is properly co-ordinated, each section prepares every Friday a report on work carried out during the week and any special difficulties encountered. Copies are circulated to all sections and these form the basis for discussion at the senior officers' staff meeting which is held fortnightly under the chairmanship of the general manager. 'Production' by the head office staff is as carefully checked as is production on the sites. The professional and administrative work is costed by means of official time sheets, together with travelling and overhead expenses, so that final costs can be compared with the cost of employing outside consultants. In no case would a scheme be undertaken by the Association's own staff where it was thought it could be more economically handled by appointed architects, engineers or quantity surveyors.

ERIC L. BIRD

Plan of an experimental house built for the Ministry of Fuel and Power for research into house heating



The block plan of the new works. The arrowed lines show the production flow. These begin at the hot metal and scrap metal entrances at the top of the plan and end on the left

Abbey Works, Margam, Port Talbot, S. Wales

For the Steel Company of Wales, Ltd.

Consulting Architects and Architects for Ancillary Buildings: Sir Percy Thomas & Son [F/A]

THIS GROUP OF BUILDINGS houses the largest steelworks in Europe and the most modern plant in the world for the continuous production of steel sheet. It has been built next to the older Margam works, where ore and limestone are unloaded at quays and the raw steel is fabricated. The main building is rather more than 4,000 ft. long, and there are numerous ancillary buildings. The plant was opened by the Chancellor of the Exchequer on 17 July.

Sir Percy Thomas and Son were consulting architects for the whole scheme from its inception. They co-operated with the engineers, W. S. Atkins and Partners, in the design of the main buildings housing the plant, but acted as architects in the ordinary way for the ancillary buildings. This is probably the first time that a firm of architects has been invited to co-operate in every aspect of the design of a completely new steelworks in this country. They were consulted on practically every aesthetic aspect of the scheme from colour schemes down to the design of unit heaters. In particular, discussion on the methods of lighting led to the detail design of the monitor roofs and great vertical windows and thus to the form of the main buildings housing the plant. One of the control cabins, designed by the architects, is shown on page 429. The architects are also consultants for the modernization of the existing Margam Works; this has meant remodelling existing buildings on difficult and congested sites.

The administrative and ancillary buildings represent a very large design and building programme which was carried out in a relatively short period of time, owing to the fact that many of these buildings could not be finally sited and planned until the general programme had progressed some way. There are eight large ancillary buildings, a power station, large boiler house and numerous sub-stations, etc. Of these buildings the main administrative office, to accommodate a staff of 600, is now under construction. The main staff canteen, which will seat 700 and provide 1,000 additional meals for distribution to various messrooms elsewhere in the scheme, is not yet built. Plans of these two buildings are reproduced on pages 428 and 429 respectively.

Following from an early decision, made in consultation with the engineers, the electrical consultants and the personnel and welfare branches of the company, it was decided to place the welfare and amenity buildings in separate units, so spread through the works as to be in easy reach of each department. Because many of the buildings were very large it was decided to plan them as detached units. The only exception is the office block of the Plate and Heavy Gauge Section.

The decision to disperse the secondary units to be near the departments they served led to their being grouped in single buildings. Therefore a typical 'amenity block' contains: (1) a group of offices for

the manager, engineer's staff, supervisors and clerical staff; (2) a first-aid unit consisting of dressing station, nurses' room, welfare officer's room and ambulance porch; (3) a staff and supervisors' dining-room and an operatives' dining-room with a central service to both; (4) a locker room with showers, wash fountains, sanitary accommodation and drying rooms; (5) a time and pay office with covered queuing space for operatives receiving pay.

There are five of these buildings with, broadly speaking, the same accommodation, though they vary in size and detail planning according to the size of the department concerned and its technical requirements. Their plans are given on pages 426, 427, 428 and 429. It was decided that all amenity buildings were to be built in brickwork with a standard of finish that was not too costly and would stand up to heavy working conditions. To economize in steel, four of the amenity buildings were built of load-bearing brickwork with pre-stressed, pre-cast concrete floors and roofs, and the buildings were planned to avoid as far as possible the use of R.S. beams.

The offices are mostly planned on two floors and built with 15½ in. cavity brick walls and with 9 in. load-bearing walls, forming a central corridor. With an office depth of 15 ft. and the use of pre-stressed floor and roof units the use of steel beams has been entirely avoided. The first-aid and welfare units are of similar planning and construction. These consist of a first



These three views of the interior of the main building give an idea of its immense size and of the even day-lighting from the roof monitors and the side windows. The top left view is from the south end of the Plate Finishing bay looking up the full 4,000 ft. length; one of the 90 ft. overhead gantries is in the foreground. Above is the Coiled Sheet Process bay; one of the large unit heaters is at the foot of the column on the left. Below is a detail view of steelwork, gantry rail and windows

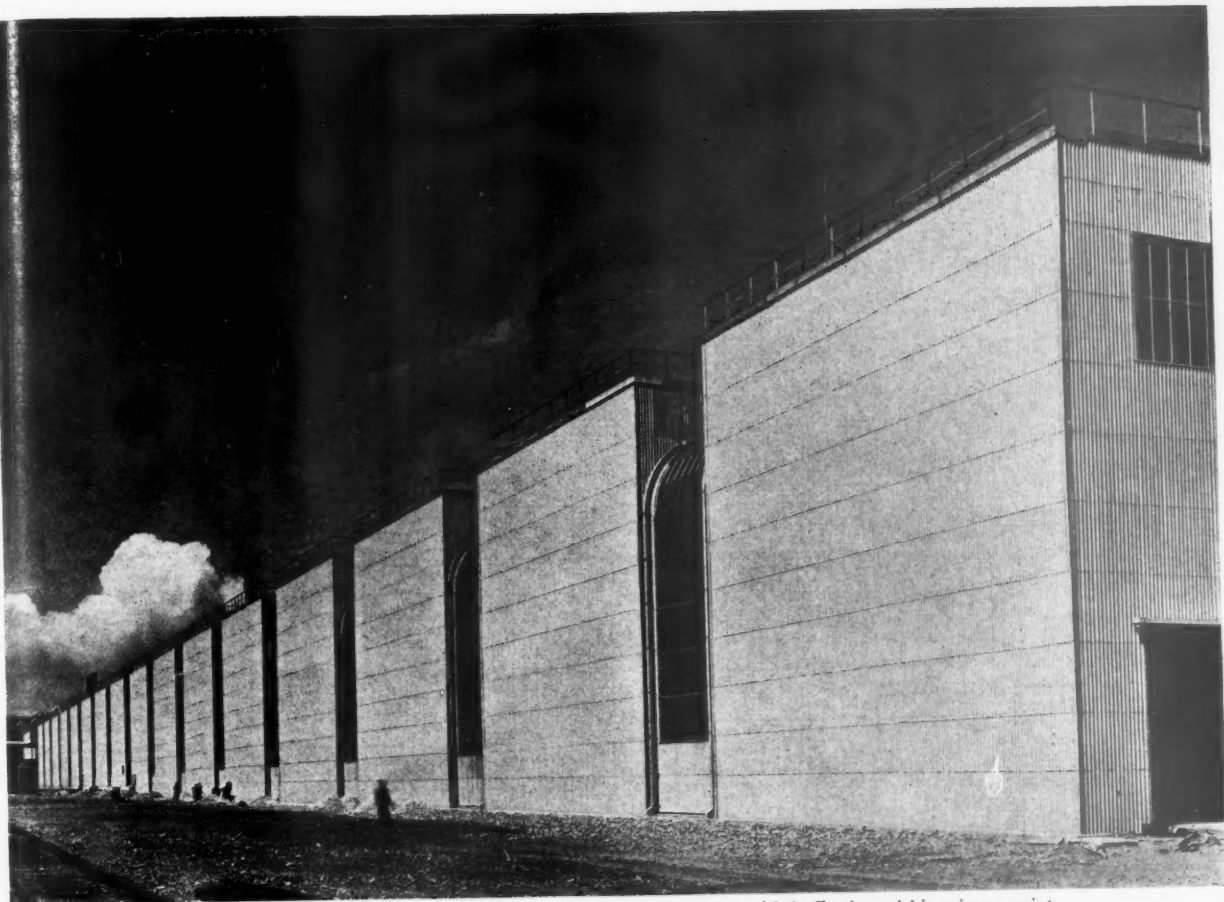


aid room, 25 ft. by 14 ft., a rest room also used as a nurse's office, a welfare office and a covered ambulance porch provided with double rolling shutters.

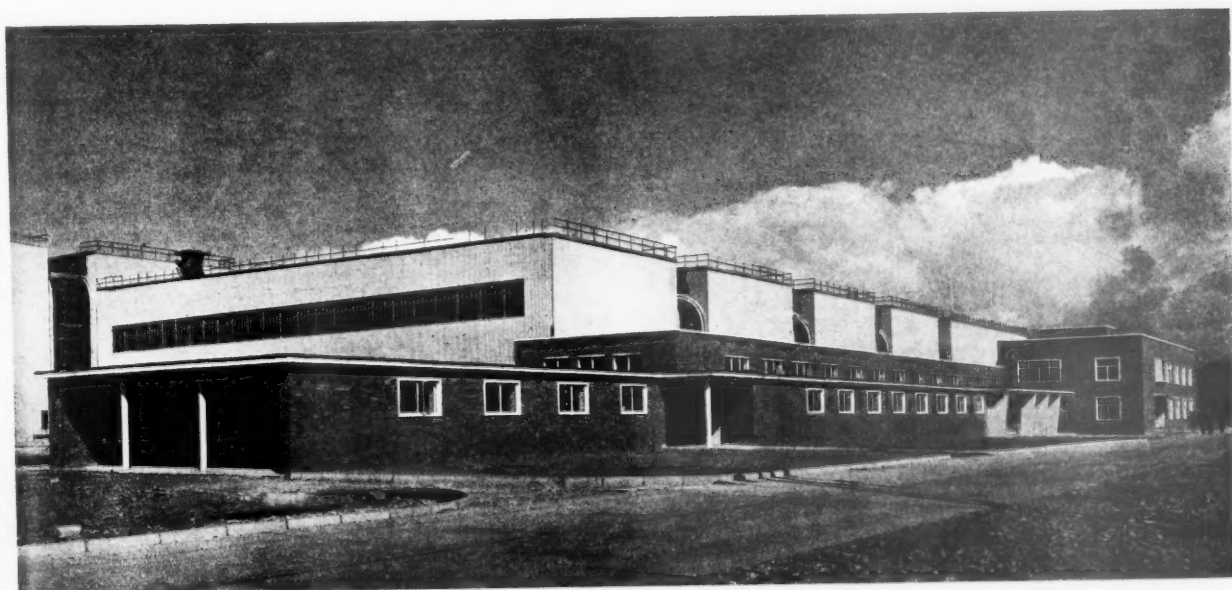
The dining rooms and locker rooms are grouped together with a supervisor's room, glazed on both sides, which allows constant supervision over both. Every operative is provided with a locker. The locker rooms are flanked on both sides by drying rooms, ablutions, showers, etc., which have lower ceilings and thus allow clerestory lighting to the locker rooms. This clerestory light continues over the dining halls which have side windows as well. This arrangement is well shown in the plans on pages 426 and 427 of the large amenities blocks. Wash fountains are circular and foot operated; the floors of all toilet accommodation are tiled, and w.c. partitions are in pressed metal.

It was soon realized that in so vast a plant, centralized clocking was impossible; time clocks were therefore provided in each main section of the mill. It was also decided to pay the men sectionally. A standardized time and pay office unit was therefore evolved and built into each amenity block. The time unit consists of four time clocks with card racks in a room connected to the locker room. The time-keeper's office is raised above the general floor level so that he can supervise the clocking, and is connected to the pay office. The pay unit is similar in plan and has a desk at the exit for the use of trade union officials. Sliding gates allow the clocking and pay offices to be shut off.

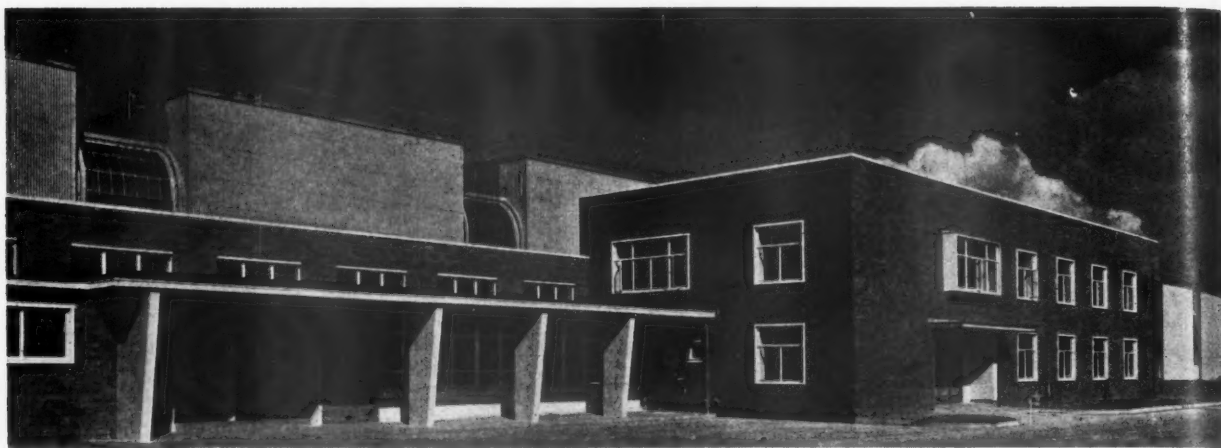
Combined car and bicycle parks are provided near each amenity block. The structures consist of brick piers topped by cantilevered precast units carrying asbestos troughing at a flat pitch. The piers are at 18 ft. centres, and the provision of slotted blocks in the floors allows the units to be used either for two cars or sixteen cycles.



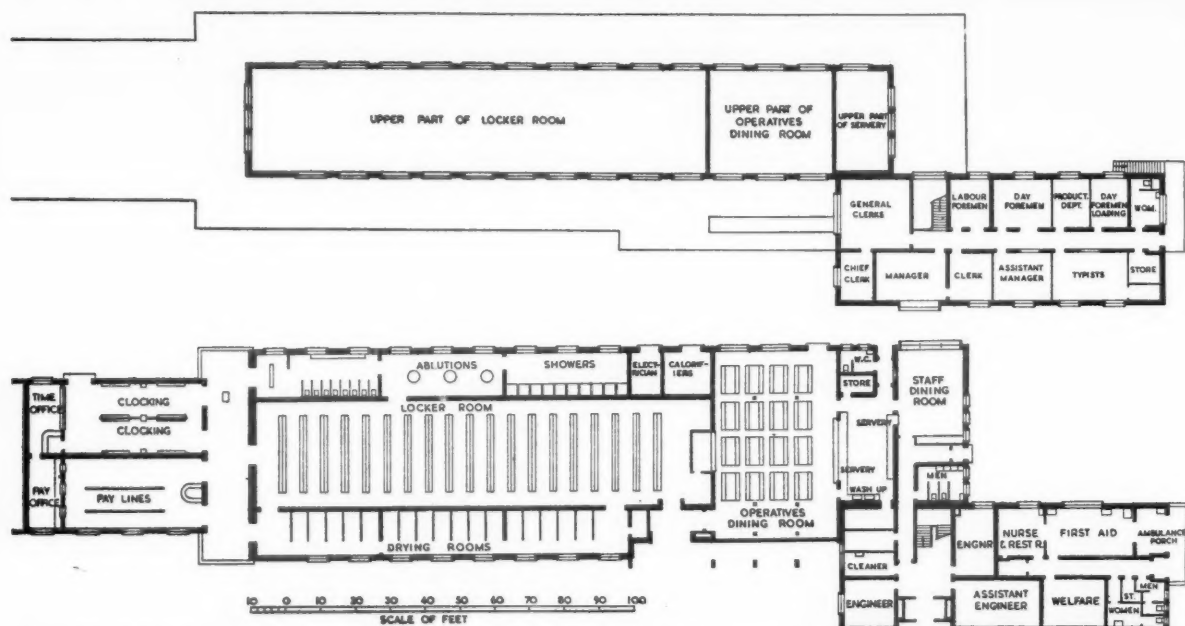
Typical exterior of the main mill. The cladding is galvanized corrugated sheet painted with buff-coloured bituminous paint



General view of the Cold Mill from the South East with the amenities building in the foreground



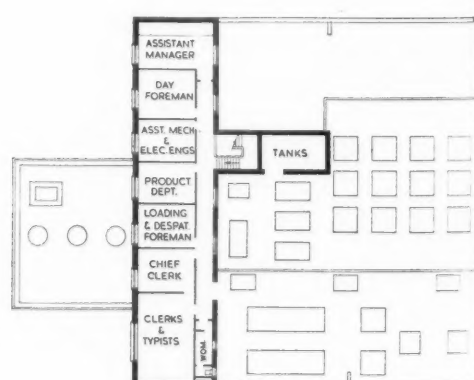
The Cold Mill Amenities Block with the packing dispatch bay of the Cold Mill behind

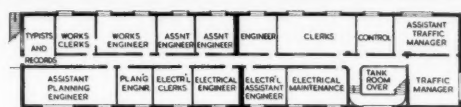


Plans of the Cold Mill Amenities Block. The principal elements are, from the left, the pay and time unit, the locker and sanitary unit, the dining and service unit, and the office and first aid unit

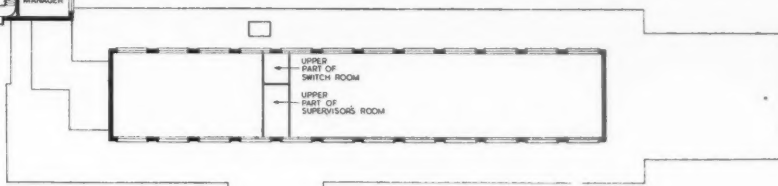


The Amenities Block of the Plate and Heavy Gauge section is one of the smaller amenities buildings. Ground floor plan left, first floor plan right

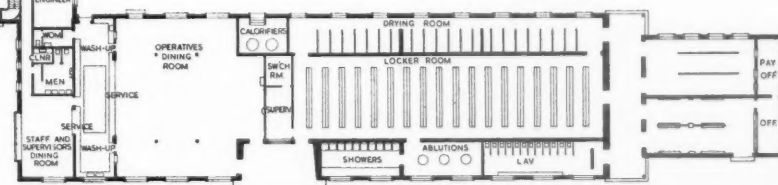




The Hot Mill Amenities Block with the Casting Bay behind. This is the largest of the amenity buildings and is for the use of 850 men. The plans are below



First floor plan



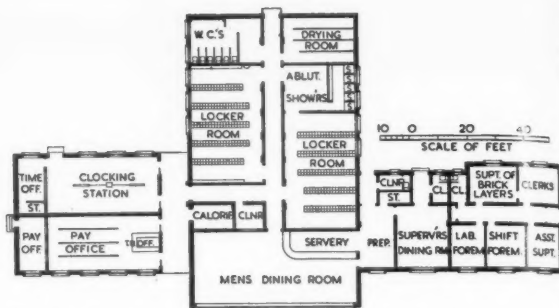
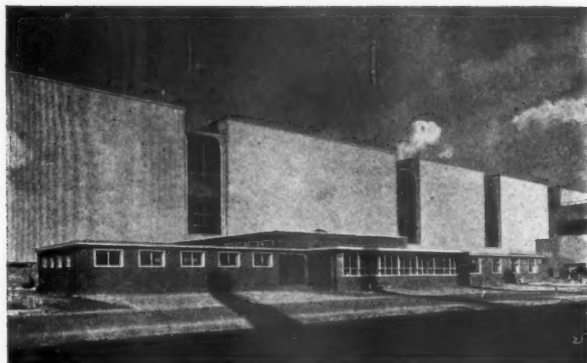
Ground floor plan



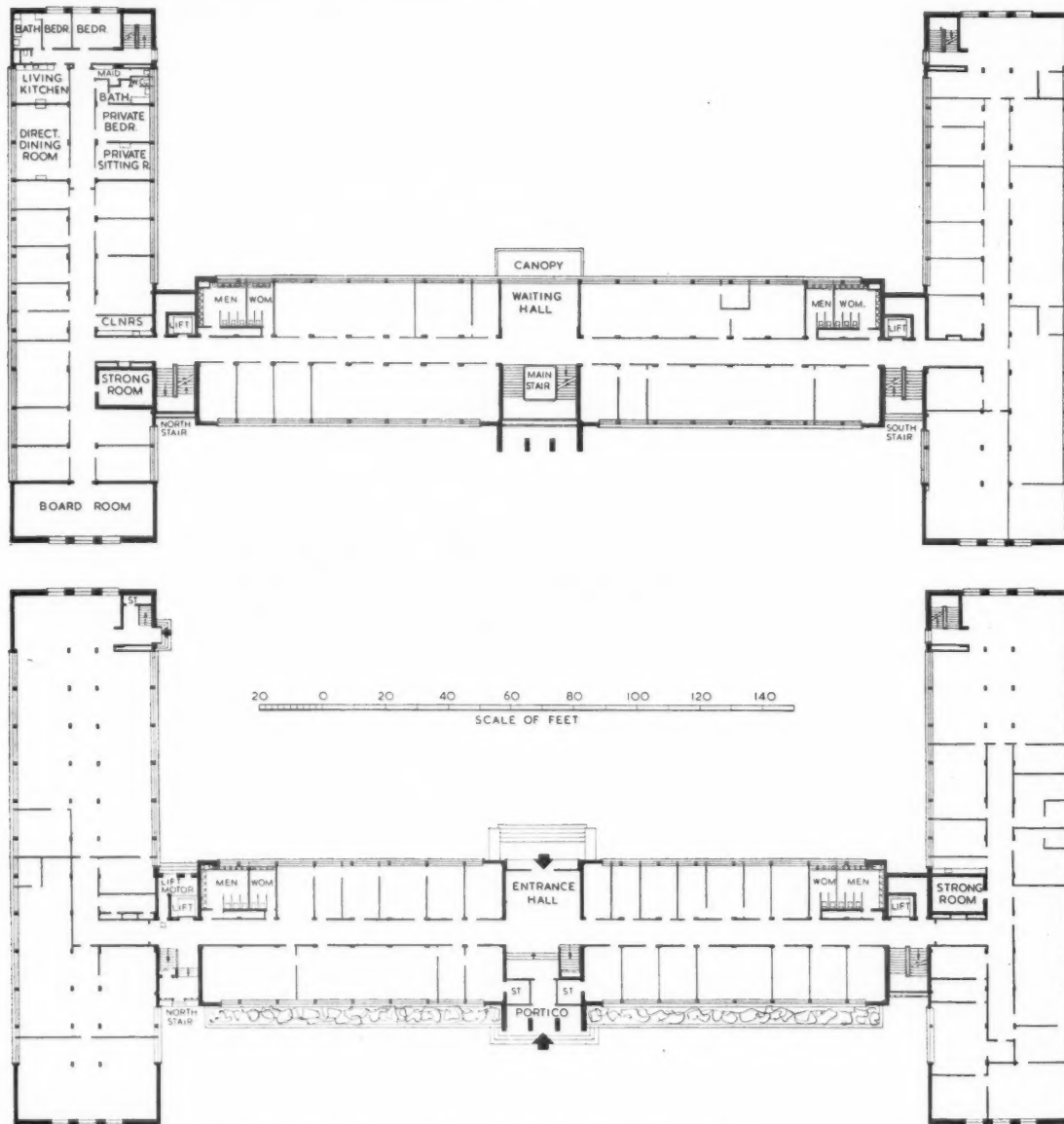
The main pump house



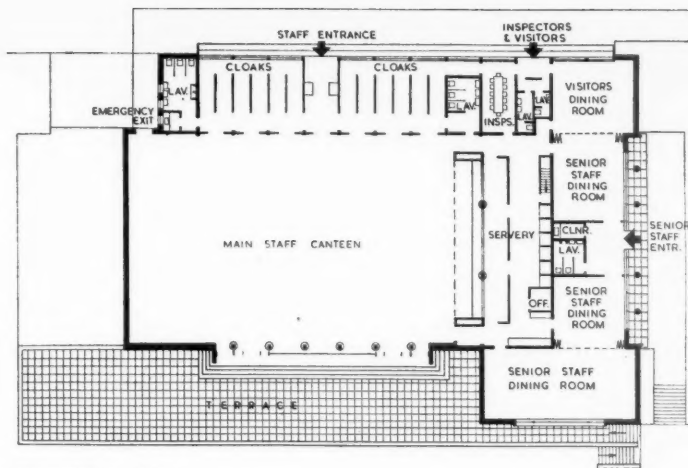
The motor room



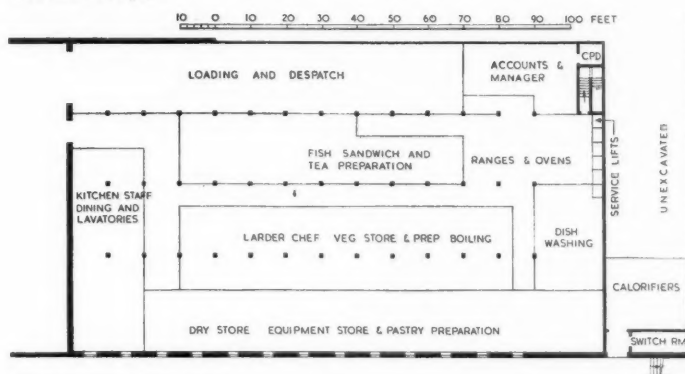
Photograph and plan of the Pitside Amenities Block



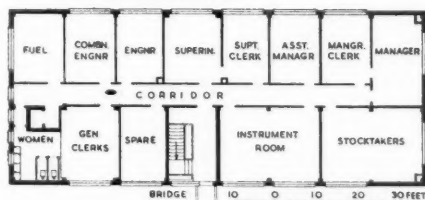
Ground and first floor plans of the main office building which is now under construction



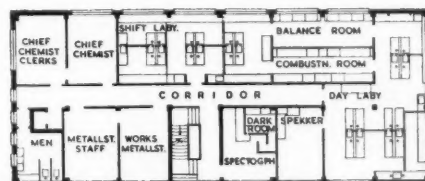
Ground floor plan



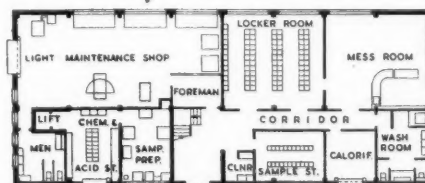
Lower ground floor plan



Second floor plan



First floor plan



Ground floor plan

Above are the plans of the main canteen, which is not yet built. The kitchen department on the lower ground floor will supply meals to be carried in containers to the other dining rooms in the various amenities blocks. On the left are plans of a technical administration block west of the Melting Shop, where the qualities of materials are examined and controlled



A typical first aid room seen from the rest room and looking into the ambulance porch



A typical office corridor with teak block floors, hardwood skirtings and fibreboard ceilings



One of the control cabins of pressed metal, backed by insulation, with armourplate glass for protection from flying splinters

The Place and Purpose of the History and Theory of Architecture in the Curriculum

Papers read by staff of the Northern Polytechnic School of Architecture at the Architectural Teachers' Conference, London Area, 1951
Held at R.I.B.A.

Professor A. E. Richardson, M.A., R.A., F.S.A. [F], in the Chair

J. E. Moore [A]: I want to begin with the teaching of history. Here I speak not as a lecturer in history but as one more concerned with the curriculum as a whole and the function of history within it. I will as quickly as possible give way to the voice of experience in the persons of Mr. Beasley and Mr. Franks, whose task it is to teach history at the Northern Polytechnic.

We can all be agreed that in whatever way history is taught—from the archaeological point of view at one extreme to the Marxist point of view at the other—the student will derive value from the lectures. What concerns us is that the student should derive the greatest possible value from the lectures in the time available, and that implies a purpose. It would indeed be futile to discuss the matter without being broadly agreed on the *purpose* of teaching history.

Now it is my submission that the *main* purpose of teaching history, now as always, is to enable the student to become a better designer of contemporary buildings. I do not think that this outlook is as narrow as it may at first seem, or that it is exclusive of the broader cultural considerations.

If this view is accepted, it means that we are not merely concerned with showing, as a matter of interest, how builders built in the past; nor merely with demonstrating how the development of structural techniques, changing social requirements, varying climatic conditions, available materials and the accidents of history affected the appearance of buildings. We should in fact be rather more concerned with appraising the beauty arising out of all these factors at the hands of people who were not merely wanting to build but also to design.

This, I believe, is primarily what we have to demonstrate to the student of architecture, the prospective designer, as opposed to the student of history.

This aspect of history has to a great extent been separated off and given the name 'theory.' It is my submission that the history of buildings and the history of aesthetics are inseparable; and, to the extent that they are separated, to that extent the teaching of history loses its value.

Let us look at all this now from the student's point of view—the new student at a school of architecture. Can we expect

him really to believe from, say, one introductory talk, that the history of architecture means very much more than the political history he was taught at his secondary school, namely, a subject to be learnt in order to pass some future examination? I contend that, if more emphasis can be given in history lectures to the aesthetic achievements of traditional building, then the connection between lectures and studio work will be ever present in the student's mind and he will extract more value from the lectures.

I do not intend to suggest in all this that the teaching of what we have previously called 'history' and 'theory' should be wholly amalgamated in one course of lectures. I do not think this is practical; first, because it would slow up the historical progression of the history lectures; and, secondly, because I think theory lectures must to some extent be keyed to the development of the studio curriculum. But I believe that if we look upon history as an aid to present design then we will have a better idea of what aspects of each period should be emphasized and what aspects can be skimmed over or even eliminated.

It may then be that we deal with each period, not always from the same point of view; but rather from the point of view of what that period may best have to teach us about designing buildings today. For example, in one period we may wish to emphasize the influence of structure on form; in another the influence of social requirements on plan arrangement; in another the use of ornament, colour, and texture as an aesthetic intention. And at all times I think we should give this meaning by briefly comparing such aspects with contemporary examples. This I suggest is a more useful approach in the time available than either an attempt to deal equally with all aspects of each period or an emphasis on any one period.

I would add only this—that just as we might teach our 'history' more from the aesthetic point of view, so also we should consider teaching our 'theory' more from an historical point of view; and so avoid the risk of dogmatizing from the theory current at any one historical period. In other words, we should present to the student as impartially as possible the

aesthetic ideas which have motivated each period up to the present day, showing the development and the inter-relation of such ideas and what they have in common.

After all, who are we to say how tomorrow's buildings must be designed? We are teachers, not prophets.

Mr. M. D. U. Beasley [A]: The matter normally given to the student of architecture as the history of architecture has become an amorphous mass; its scope is too wide and its approach is tending to become too comprehensive.

The problem thus arises of what to discard and what further to admit.

The approaches by lecturers, at present, are in three categories, though there are some schools where one or even two of these are omitted:

1. The archaeological catalogue of styles, buildings, dates and men.
2. The analysis of planning, structures and aesthetics of periods or specific examples.
3. The sociological examination of the conditions producing a phase of art.

Obviously some factual material is essential and fundamental, but this should be kept to a minimum. Every non-essential should be eliminated and no attempt made to cover every country or building type.

The analytical approach still seems to me to be the most important, for without it there can be no depth of appreciation, nor can the factual vocabulary be digested by the student. It is the student's 'experience' of architecture which counts, for on this alone can be built sensitivity, creative ability and a critical faculty.

The blackboard, lantern and even verbal description are no substitute for actual seeing. The history of architecture can best (almost only) be taught through contact with actual buildings. A visit with an adequate lecturer-guide will leave a permanent and lasting impression on the mind of even the duller student. Of course not all types and examples of buildings and architecture can be visited, but only the essential ones; and enough examples to form an enduring understanding of development in the last 1,000 years are available in this country.

It is not suggested that Greece, Rome,

France and Renaissance Italy be ignored. A general survey at the beginning of the course is essential, though this need not be longer than a term. This survey should indicate the general pattern of developments from earliest times to the present day. But the most important architecture for the English student is the architecture of England, since it is almost certainly here that the student as architect will build, and that, moreover, next to earlier English architecture. At the Stockholm Technical School 56 hours are spent on general history and 56 hours on Swedish history; and I suggest that we here should emphasize and give more time to the architecture of this country. Further and more detailed reference can continually be made to the sources of English architecture by working backwards: thus we shall work back to Sens Cathedral through Canterbury, to Westminster Abbey through Rheims, and, later, to Palladio and Scamozzi by their influence upon Inigo Jones and Kent, and to Serlio and Sansovino by reference to Wren's works.

There is a tendency to overstress the sociological approach today, and this in present circumstances is understandable. It is very necessary, of course, to teach something of the religion, philosophy, economics and politics producing art and architecture. But this study should be kept simple, short and easily understandable to any student. Above all, it is desirable that the student should see his examples, not as empty shells or museum pieces, but as living architecture, peopled and used and set in their correct contemporary architectural groups.

An addition to the measured drawings and studies should be the practice of designing next or to in addition to architecture of the past. This is difficult and the results will be poor, but the practice will be worth the disappointment; at least it will open the student's eyes to the problem of achieving harmony and sympathy with neighbouring architecture, and at the same time will add to his appreciation of that architecture.

Mr. R. H. Franks [4]: Few of us will admit that architecture must cease to be an art and continue only as a useful science. In this austerity period there is every indication that well versed technicians in the science of building are all that is needed. We, the artists and the teachers, must surely resist the onslaught of the times if we have any belief in the future. It is time enough for our student to learn how to eke out the rations when he is in an office. It doesn't take him long to learn how to put in skirtings of paper thickness or choose materials of the poorest quality.

Our student is the product of austerity, he was five years of age in 1939. He knows nothing but austerity. Only by the study of other periods of history can he begin to see his own period in true perspective. If he can not do that he will conclude that the building requirements of mankind at the turn of the second half of the 20th century

consist of a concert hall, schools, flats and the Housing Manual.

I submit that the study of architectural history has never been so important as it is at the present time. A student cultivated in the art history of architecture is something of a connoisseur. A connoisseur will insist on the evolution of art. A technician will not; he will insist on the advance of technical achievements.

Mr. Franks here referred to the desirability of the study of architectural history beginning in the public and secondary school, and continuing into the fourth or fifth year after it had ceased to be an examination subject. He then went on:

The student possessing the required standard of education arrives at our school and says he wants to be an architect. If you ask him why, he'll say he doesn't know. He knows nothing about architects or architecture, but for some obscure reason he is prepared to devote himself to it.

He no longer comes from one of the Stately Homes where the study of the arts is fostered. His home is either a suburban semi-detached, a flat, a prefab or rooms. The chimney-piece around which he is accustomed to sit is of the slabbed-tile variety, and the verticality of the chimney breast is usually interrupted by an oval mirror hanging forward with its long axis parallel with the plane of the floor. The furniture and furnishings come from the same shop as the mirror, and no books on art or architecture receive pride of place on his bookshelves.

The topic of conversation round his dinner table could conceivably be music, is rarely art and never architecture, unless political arguments on the housing shortage could, as an act of charity, be included under this latter heading.

It is true that our educational standards have progressed since the time of Dickens. The drainage systems of our nursery schools are near reaching their complete fulfilment, and I have no doubt that high-minded politicians are looking forward to the glorious day of the future when each little toddler can be provided with a w.c. pan to himself.

When our little toddler progresses to the junior, senior, and secondary or public school the psychological approach, the free development of the individual through the play-way (mud and water) seems to lag sadly behind.

His masters of history teach little of art and still less of architecture. They are very conversant with the Field of the Cloth of Gold and the meeting of the English and French monarchs on that fabulous site, but the effect of that meeting on the art of this country never enters their heads.

Our student has taken literature via English, French, Latin or Greek, and if he has heard of Vanbrugh, Viollet le Duc, Vitruvius or Pericles it was only in connection with some dry-as-dust quotation or difficult grammatical construction.

In mathematics he has gone far beyond differential calculus, but finds it difficult to believe that a purlin has to be supported.

For geography he has traversed the whole world, but if you speak of the civilizations that sprang up on the Tigris and Euphrates you will find a look of utter despair covering the faces of the back row. In an undertone Smith says to Brown: 'Tiger what?' and Brown answers: 'Tigris you Ciss, but what was that Eupha bit?' And Smith replies: 'Euphrates Euphool'. Whereupon there is an audible titter and you know then that you are going too fast.

It is useless bemoaning the fact that the raw student, the normal product of his time, has no artistic background, no artistic training, and no natural taste. It can be assumed always that in this sense he is completely uncultivated.

On the credit side he is highly intelligent, possessing a brain that has had a lot of exercise, and his mind is wide open. If we are to keep his mind open and active we must interest him, entertain him and make him feel that he is part of the great history and not someone outside it. We must make him take a pride in his sketches that form his record of the visual art he has chosen to study, just as Villard de Honnecourt, Alberti, Wren and others did before him.

Mr. Franks went on to say that history must never be dull, and to this end hard facts must be woven into the continuous story of man and his endeavours, his limitations and achievements. The story must be profusely illustrated with pictures, anecdotes and humour, and short controlled discussions do much to keep the student interested.

But a student could not be interested in a subject entirely strange to him and talk that was therefore above his head. For this reason a short version of the history of architecture might be given as an introduction, taking up, say, one term; when the story was re-told thoroughly in detail the student would be much more likely to appreciate, for instance, what was meant by 'the orders', because he would have heard it before and it wouldn't be such a shock.

He also suggested that occasional visits to see actual examples were a refreshing break from the lecture room and provided reality to the study. The student's attention could also be directed towards the theatre, the film, the exhibition, the radio and television when these facilities had a bearing on the subject. Finally, he stressed the importance of encouraging the student to read. He would not read history books, which are in any case, said Mr. Franks, reference books, and to be treated as such. Students could be provided with a list of them for reference purposes, but for reading they should be steered towards those historical studies which are in themselves examples of literary art.

Mr. Franks concluded his lecture by saying: 'If we can make our student richer by an understanding and appreciation of the vast architectural heritage that lies behind him, if he can feel the inspiration that gave rise to the art of the mediæval or the refinement of the art of the Renaissance, then the unbuilt works that lie before him will be no less works of art than are those of his predecessors in history.'

The Approach to Science and Structural Mechanics in the Architect's Training

Papers read by staff of the Hammersmith School of Building and Arts and Crafts at the Architectural Teachers' Conference, London Area, 1951
Held at R.I.B.A.

Professor A. E. Richardson, M.A., R.A., F.S.A. [F], in the Chair

Mr. Edwin M. Rice [F] began by explaining that he was introducing the subject only, and that Mr. Sterry and Mr. Williams would deal with it in more detail. He went on to say:

The subject we propose to deal with is one which can have enormous scope, and it is essential when planning or operating an architectural course to be clear about the approach we propose. It is obvious that there can be many methods of approach, and Mr. Sterry and Mr. Williams will endeavour to show the way in which they, together with their colleagues who teach other parts of the course, endeavour to do it. There are one or two points, however, that I would like to raise before they begin.

There is no doubt that under present conditions it is impossible to train an architect without some consideration being given to the scientific factors affecting the process of building. If the architect is to fulfil his function as a creative designer he must have a proper understanding of the following:

1. Materials, their behaviour, limitations and possibilities.
2. Structural systems and methods and their possibilities and limitations.
3. Sanitation, equipment, heating, ventilating, water supply, and various other mechanical and scientific alleged aids to comfort.
4. Acoustics.

This premise is fairly widely accepted, and Mr. Sterry will later refer to relevant sections of the Report of the Special Committee on Architectural Education, where similar views are stated.

Now the difficulty arises, in planning a course, over what precise meaning can be given to the term 'a proper understanding'. Materials and their behaviour can very easily become a life work, and so can any other of the items mentioned. But not for the architect. He will be able to avail himself of the services of a team of specialists in these various branches for detailed information. He needs to know something of the general principles involved. He needs to be able to co-operate intelligently with the specialists. He should have sufficient basic knowledge to enable him to

design in various materials, using the resources of modern structural methods in a manner such as will bring credit to himself and his specialist collaborators and pleasure to his clients, their friends and the public in general.

There is a dreadful tendency today to overlook the proper functions of the artist and to believe that the divine spark of intuitive creativeness can be readily found by a process of careful technical, sociological or even psychological analysis and synthesis; an almost reverent belief in the omnipotence of science and the 'scientific method'. A little healthy breeze of emotional intuitiveness is needed to clear the air of some of this drabness.

It is easy to teach scientific subjects. It is easy to speak glibly of the social significance of architecture. It is not easy to develop students' creative abilities. Long and impressive syllabuses can be written round subjects like Materials, Building Science, Structural Mechanics, Theory of Structures, Sanitation, Heating and Ventilating, Acoustics, and so on. There is nothing so easy as to inflate and extend a series of lectures on, shall we say, Acoustics, to occupy a couple of hours a week for thirty-six weeks or even seventy-two. The time can be filled very easily. Similarly and more so with the others, and in the end your architectural student can have passed through his course and learnt nothing about his job, but a great deal about other people's.

I am prepared to maintain that if more than about one-sixth in the earlier years and one-eighth to one-tenth in the later years of the total time is spent on the applied sciences in an architectural course, then far too much time is being given to them, and these, remember, are maximum figures. I am not prepared to take any stand on minimum time.

The teachers of specialist subjects may well, in their enthusiasm for their subject, lose sight of the object of the course and this must not happen. A proper balance and a proper co-operation between studio and design instructors and all specialists is essential, and this can not be too highly stressed. Each needs the assistance of the other. Often the resistance, I regret to say, comes from the design side. This I deplore.

Good designers need the basic knowledge and should get it, but not too much.

Let your students grow big. Let them look at the stars. Never mind grovelling in the gutter after interminable facts, figures and researches. That's a task for little men. For technicians—not for architects. Not even for engineers or creative scientists, but—I repeat—for little men. Let us beware lest we find ourselves in a world full of little men with the stars gone out.

Mr. L. R. Sterry, B.Sc.: When we consider the requirements of the architect we can not do better than refer to the Report of the Special Committee on Architectural Education in which we find:

'The architect should be equipped with sufficient knowledge of the principles and elements of certain relevant sciences, so that he may be qualified to discuss and judge the merits of the application of those sciences to specific ends and be able also to make the best use of the reports of the Building Research Station and other experimental institutions, as well as of the services of those specialists or experts whom he may have occasion to consult in the course of his practice. That being so, it will unquestionably be advantageous if he has early been introduced to subjects which will later help him to comprehend the properties and behaviour of building materials, the action of heating, lighting and ventilating systems, the principles of acoustics and the potentialities of electrical and mechanical equipment generally. His pre-vocational education may, therefore, usefully include the study of Chemistry, Physics and Electricity carried as far as they are usually under the title of General Science for School Certificate purposes.' (p. 12).

This appears to provide a useful basis for discussion although there can hardly be disagreement over the broad meaning of this extract from the Report.

There will be considerable variation in the attainments of would-be architectural students. From the point of view of science, a student with a good sound general education would be preferred to one having a superficially advanced knowledge of science. However, good science teaching

can do much to promote the balanced thoughtful judgment demanded of an architect. Clear thinking, clear expression and interest are the essentials.

A natural difficulty arises with all lecture subjects where the individuals are at very different levels of knowledge. However, with building science, the approach—even although the main concern is the inculcation of principles—allows scope for dealing with very mixed groups. To those who have done general science before, the topic may be presented as partial revision, while the applications of the principles to building will give the subject a 'new look'. There should be no great difficulty for the newcomer to science as the principles dealt with are few in number and the illustrations simple and of absorbing interest to the student of building.

Some establishments may require an entrance test and one such, which I have seen (the Architectural Association School of Architecture), includes a paper on 'Appreciation of General Science'. This demands an essay and the answers to a large number of small questions. Presumably the way in which the question is tackled is as important as a correct answer, for there will be many variations—especially to one which reads: 'Why do little girls with red hair wear green jumpers?' The setting of such a paper is a useful beginning and among other things provides evidence on the general level of scientific appreciation.

The object of the course will be to train architects (i.e. designers), and contributory subjects should not be allowed to gain a position of great importance.

It should be, and is, possible for the science lecturer to have frequent discussions with the studio master and the master in charge of architecture. By virtue of his training a science man should have developed that open mind which makes such collaboration possible. It may not be so easy if the architectural teacher is very biased or if his own training has been deficient in scientific principles and ideas. This latter occurrence is rather too common in many spheres, and there seems to be no ready answer to it.

It was not always possible, or desirable, Mr. Sterry said here, for lecture courses to keep abreast of studio work, which must take precedence. But the essential thing was for a logical development of the main ideas of a science course, and for the parts of the subject to hang together. In any case, a respite from the drawing board and a change of focus was in itself invigorating.

He suggested that in the first three years it was desirable for students to have a weekly period of building science dealing with general principles, leaving more specific examination work in the subject for the fourth and fifth years. It should be the natural and accepted practice for the student to seek assistance from the science lecturer at all times when the occasion arises.

It is generally agreed, went on Mr. Sterry, that Building Science falls con-

veniently into four main sections, and, leaving the 'Structure' section to be dealt with as Structural Mechanics I will deal with 'Fabric', 'Materials' and 'Services'.

Time does not allow, nor would it be desirable, to deal with the subjects from the same angle or in such detail as may be necessary with, say, Building Diploma students. A minimum of formal lecture, associated with demonstrations and illustrations, should be the basis and there should be much discussion, with frequent and deliberate efforts by the science lecturer to indicate the possible applications.

Occasionally students should be set to compile what might be called research sheets on such topics as 'Capillarity and Steps Taken in Building to Prevent Ill-effects', 'Defects in Brickwork' (tied up with consideration of Efflorescence and inter-action of chemical substances), 'Defects in Concrete Surfaces' (for more advanced classes). These topics will encourage close observation, the use of cameras and sketch books, together with the collection of other visual material, and will provide a useful exercise in the presentation of facts. Care must be taken that such efforts are promoted with the full co-operation and assistance of the studio master, to avoid overloading the student or detracting from his main work.

'Students in the course of their training should unquestionably learn how to set about the business of investigation; they should be shown how to use a library, how to collect, verify and organize data, and how to present the results of their work in an appropriate form' (p. 24). While the meticulous recording of individual experimental results is to be deprecated, slipshod methods of recording observations can only lead to unclear thinking and faulty deductions from collected information. Much of the tedium of result recording can become an interesting and healthy exercise for a group of students. In simple experiments such as thermal insulation, radiation and absorption, which require a series of readings at regular time intervals, the class can profitably divide into small groups and enter the results on the blackboard. This develops team work—a desirable form of training—and allows for summing-up and discussion with all the evidence clearly available to all.

The branch known as Materials and Model Collection requires special attention, involving, as it does, close liaison with building construction. One of the prime functions of the science lecturer should be to provide facilities—and the laboratory can well be a convenient and suitable place for examination and perhaps simple testing of materials and specimens.

While there should be no great usage of time, the young architect should handle different materials. Texture plays its part with form and colour, and consideration might well be given to this branch of sensual training. It is natural to feel things, and the student should gain knowledge by handling or mixing small experimental

amounts of lime and gypsum plasters, cement, concrete, magnesium oxychloride and handling different kinds of brick and stone.

For the more advanced students facilities should be available for experimental work on, say, renderings of different types, and there should be an outdoor site for small-scale work and for the exposure of specimens. Colouring of concrete is an interesting and profitable exercise. There is considerable scope for a better use of materials and the avoidance of much ugly disfigurement arising out of ignorance or mis-use of building materials.

The science lecturer can do much to curb the use of novel materials simply because they are new. Their limitations will be indicated and a more sober judgment may result. At the same time, the possibilities of new materials and methods will not be neglected by students whose scientific training has helped them to be receptive to new ideas.

There is considerable scope in this technical aspect of the architect's training for the use of visual aids, and the many films dealing with materials, methods and general principles should be used not only as a means of implementing specific subject teaching, but also for the stimulation of ideas. These, as well as the use of slides and epidiascope, should be used as *aids* and never allowed to appear otherwise. The architectural student is peculiarly attracted by such aids, and they should be used as the basis of discussion.

Visits to sites, factories and works are very helpful where building construction and science are particularly concerned. They can all play a useful part in the architect's scheme of work, and the less these are the isolated reserve of one subject the more they will take their proper place in the student's training.

There is considerable variation in the science facilities available at various establishments, and where laboratories are mainly concerned with pure science the architectural student is not likely to find the atmosphere that will assist his work. In those cases where the architectural course is conducted in the same building as the associated and complementary courses for Surveying, Building Diplomas and Crafts, architectural students can look upon the laboratory and its staff as extensions of their studio. There appears to be some evidence for this in the applications by the more advanced students for guidance on difficulties encountered in their work.

Mr. D. T. Williams, A.M.I.Struct.E.: In preparing this introduction to such a subject, I find myself considering three main aspects into which the problem may easily be divided:

1. Why does the architectural student need to be instructed in the subject?
2. How can the course and syllabus best be divided?
3. What suggestions can be offered to others organizing and running such courses?

(1) Under the first heading, it must be made clear at the outset of the course that the object of such training is not to produce a race of architect-engineers! The complexity of modern structural analysis calls at every stage for the expert knowledge and co-operation of the specialist structural engineer, and the necessity for this advice and co-operation must be stressed to the student from the very earliest stages of his training. The inclusion of structural mechanics in an architectural course should instil an appreciation of the difficulties of the specialist, and cultivate a sense of structural proportion rather than attempt to make of the architect a specialist within himself. It should enable the student to bring to his design a sense of what is structurally sound and economical.

(2) In dealing with the syllabus itself I have attempted to outline only very briefly the scope and planning of the course. The more detailed curriculum is dependent obviously on the planning of the course as a whole, and must fit neatly into the overall scheme. However, running very quickly through my own particular scheme, I think it may be summarized as follows:

1st Year. This year should concentrate on showing that design of structures consists of analysing the distribution of load between the individual members of a structure, and before dealing with the detailed study of load, forces, resultants, equilibrants, reactions, moments, etc., the student should be shown why the detailed study of these points is so important.

With regard to this more detailed study, much actual experiment of a simple nature should be done by the student himself, and it is absolutely vital to see that nothing is introduced graphically or mathematically that he can not illustrate or prove by actual example with simple apparatus. Nothing is more misleading to the student than the impression that a force is a line with an arrow on the end. Forces consist not of lines on paper, but of objects resting on surfaces, pictures hanging on cords, horses pulling carts, men carrying ladders, and there are few principles of elementary mechanics which can not be illustrated pictorially in this way. The architect's very training is pictorial in its approach, and every principle that can be shown as a sketch should be.

Examples of a building nature should not be introduced too early in the course, and in the first year I believe it is wiser to confine the study of mechanics mainly to general principles of stability and equilibrium. There is a tendency, for instance, in the earlier weeks, when dealing with principles such as the triangle of forces, to rush to the investigation of framed members generally and roof trusses in particular, and I feel this is unfortunate and tends to give the student—quite wrongly—the impression that he is already actually designing complicated structural frames. The accent throughout the first year must be on first principles, and little if any attempt must be made to design even the simplest of structural members. All that is necessary is to show that certain forces are acting, to

show where they are acting, and to be able to determine the general effect of these forces, and to understand that the total amount of the forces must be analysed and properly distributed if the structure is to be stable.

In brief, the first year's work consists of determining what I like to describe as the 'punishing forces', which will be acting—the moments and shears for example—and showing that these forces on the debit side must later be accounted for on the credit side.

2nd Year. It is in this year that the way in which the various members resist the punishing forces is considered, and the object now is to show how—dependent on the amount of punishment provided—members of structures are built up to be just economically strong enough to provide sufficient resistance to these attacking forces. This brings the accent on to materials, elasticity generally, shapes of structural members, good and bad shapes, and that difficult and thorny question—properties of sections. Here again the student should appreciate that resistance to those punishing forces can be provided (1) by the shape and size of the member, and (2) by altering the material of which it is constructed. He must see that the actual measure of strength consists of something which assesses both material and shape, and resistance moments described in this way will, I feel, mean far more to the average student than an ability to quote formulæ or prosy descriptions of a moment of inertia!

3rd Year. Summarizing the first two years' work, generally, they have covered (1) the investigation of the forces acting, or the degree of punishment as it has been called, and (2) the internal defence which the beam or other member exerts. In the third year, these two considerations can be integrated to an understanding of simple design, and the two sections of previous work combined in the design of beams, slabs, walls, trusses, etc., and in the checking of existing work. Here again, the danger of attempting to turn the student into a minor structural engineer must be emphasized, and elementary first principles rather than advanced analysis must be the method of attack. I would plead here for the solution of all problems by the use of basic principles, and deprecate the muddled use of so-called standard formulæ. My own experience in structural engineering seems to suggest that there is no such thing as a standard case, and mere memorizing of formulæ can be dangerous. At this stage in his training the student should be well equipped for the Intermediate examination in this subject.

4th Year. At this stage the work of the previous three years should have produced a good general understanding of simple design, and before going on to a little more advanced theory to cover subjects needed for the Final examination the student's own problems in design, his testimonies, etc. will provide useful and varied subjects for him to investigate structurally. But here again restraint may be necessary to per-

suaude him that too detailed analysis can be confusing, and that even the most advanced forms of modern structural design are only application of the basic principles which he should now understand.

At this stage I feel that the architect should be cultivating a feeling of the right sort of size for particular members without detailed analysis. He should know when a beam of a certain depth is reasonable or otherwise, and should be beginning to see structural theory as a tool rather than as an end to itself. There is usually at this stage—and I feel here that all teachers of structures to architects will agree—a tendency for him to design difficult arrangements merely because of his own feeling that he is now well equipped to do so, and at this stage in the proceedings a certain 'structural truculence' is noticeable in most 4th year students. He may be shown the simple application of modern types of special construction, pre-stressed concrete, shell concrete, etc., and he should certainly be aware of these developments, but he must understand that their design is still only a development, and that their actual analysis calls for the special training of the engineer.

Mr. Williams here remarked that this urge to do everything the hard way was not peculiar to architecture. It was very much apparent in his advanced students in structural engineering also. He went on:

5th Year. Much that has been said for the 4th year can be repeated with equal truth about the 5th and final year. As our Chairman said at our first meeting, 4th year rebellious, and 5th year contemptuous!

In this final year a good deal of theory still remains to be covered, but I think much of the work can be combined with the student's own problems in design, and everything he has used—or rather learnt—in the earlier years should combine to make an understanding of his now larger design problems more complete. His theoretical knowledge must still be carefully co-ordinated with his building construction, and, where possible, theory should be lined up with all relevant bye-laws, Codes of Practice and B.S.S's. One suggestion which I have to make here—and this applies also to the 4th year—is that in schools such as our own, where the subjects of architecture and structural engineering are taught under the same roof, each department should be encouraged to mingle more freely with the other, and they should co-operate in discussing and even designing to their mutual advantage. I have, for instance, found that certain difficulties which the 4th and 5th year architects met in their design have served to illustrate to 3rd and now 4th year structural engineers the types of difficulties which they in turn will meet, and to show—far more effectively than mere lecture references—what co-operation between architect and engineer can really mean.

This system is now proving so successful, that during the latter stages of the school term these two years of architects know that they can bring their drawings and problems to the 3rd year structural

engineers at certain periods of design and have an informal discussion at which the 'engineer' will state his case, and suggest how the problem may be solved.

I think this system could well be used more widely, though at the same time I would prefer to see it working as it does now—quite informally—rather than that it should be a part of the official timetable.

Summing up very briefly what I have considered to be the essential points in

the approach to this subject of structural mechanics:

The emphasis must be on first principles, and the student must learn to co-operate rather than compete with the engineer.

The structural theory should be closely integrated with his other work, design, construction, etc.

The attempt must be made wherever possible to find structural solutions which are simple and based on first principles, rather than to rely on purely modern

innovations in structural analysis. And in conclusion, all the work which the architect ever does in structural theory—or for that matter in any other subject—must be chosen and presented in a way calculated to make him a more efficient architectural designer. Whether we succeed in this or not his studio work will decide, and in the finished result of his design will be demonstrated the success or otherwise of our approach in leading him gradually through the thorny paths of mechanics to the fields of creative design.

Practice Notes

Edited by Charles Woodward [4]

IN PARLIAMENT. Improvement Grants.

Asked if he was aware that the present regulation by which expenditure incurred by local authorities had to be deducted from the amount of their authorized grant for building licences was preventing useful progress in the installation of efficient heating and cooking appliances, as well as adequate sanitation; and if he would reconsider this regulation, the Minister of Local Government and Planning replied: So long as the cost of installation does not exceed £100 no licence is required.

Asked further if he was aware that this amount was very small indeed and that it was preventing many essential improvements, resulting in the deterioration of many houses, the Minister replied: I do not think this is really so. The cost of the equipment itself does not require to be licensed. The cost of the installation must not exceed £100 without licence, and I am advised that in practically every case, whatever the cost of the equipment, the actual cost of the installation should not exceed £100. (10 July 1951.)

Heating Appliances. Asked whether he will allow to rank for grant under the Housing Act 1949 replacements of old heating appliances in buildings by modern fuel-saving installations, the Minister of Local Government and Planning replied: Yes. (1 August 1951.)

MINISTRY OF LOCAL GOVERNMENT AND PLANNING. The Minister has decided to set up in Cardiff a Welsh Office of his Department to administer planning functions in Wales and also the housing and local government functions hitherto carried out by the Welsh Board of Health. The Headquarters of the new office will be in the Welsh Board of Health building at Cathays Park, Cardiff, and Mr. William Thomas, formerly a member of the Welsh Board of Health, has been appointed to take charge of the Welsh Office, with the rank of Under Secretary.

Portion of Communication Pipes under Streets. Circular 43/51 dated 31 July 1951 states that many local authority water undertakers have made it a practice when they are laying a new water main in a street also to lay the parts of communi-

cation pipes which lie under the street and themselves to bear the cost of so doing instead of recovering it from the consumers concerned. The Minister's view is that this practice has much to commend it, as it reduces the cutting up and re-making of streets and facilitates the laying of water mains in the verge on one side of the street. Doubts have been expressed as to the powers of the authorities themselves to bear the cost instead of the consumers, and the Minister proposes to take the first opportunity of putting the matter beyond doubt by a direct statutory provision. In the meantime he would not wish to discourage authorities from continuing or adopting this practice.

Any previous letter from the Department on the subject of the powers of water undertakers on this respect should be regarded as withdrawn.

Control of Existing Advertisements. Circular 52/51, dated 2 August 1951, calls attention to the position since 31 July when all outdoor advertisements came under full control.

Under the Control of Advertisements Regulations 1948 (S.I. 1948, No. 1613) the local planning authority may require application for express consent to be made for consent for the advertisement to remain. Under the Regulations the local planning authority have power to extend the time within which applications have to be made, and this Circular states that the Minister looks to authorities to use their powers with energy but also with discrimination. The Minister thinks that it will be in everybody's interest to use the challenge procedure in an orderly and gradual way and that a large number of advertisements should not be challenged all at once. This would not only make it difficult for the advertisers but would inevitably produce a sudden increase in the number of appeals. The power of challenge does not lapse. Authorities might systematically review compact areas and challenge the advertisements which they consider injure amenity or are dangerous. It is hoped that early attention will be given to those rural areas for which special control is not contemplated. Requests for extensions of time should be sympathetically considered, and where an authority is prepared to see an advertisement remain in modified form the matter should, wherever possible, be settled by discussion. The Minister attaches great importance to

this, and hopes that both sides will do their best to reach agreement.

Central Land Board. The Annual Report of the Board for the year ended 31 March 1951 has been published, and is obtainable at H.M. Stationery Office, price 9d.

War Damage. Notice to Treat. Circular 51/51, dated 27 August 1951, states that the War Damage Commission can not pay for expenditure on demolition and clearance of a war damaged site after the date of a Notice to Treat as they are precluded from doing so by Section 14 of the War Damage Act 1943. The cost of demolition and clearance should therefore be treated by the acquiring authority as part of the cost of site development.

As the owner of a cost of works property which has been the subject of a Notice to Treat can not for the same reason obtain reimbursement from the Commission for war damage repairs executed as a result of a Sanitary Notice, it is suggested to local authorities that great circumspection should be exercised in issuing such notices necessitated by war damage.

Timber Control. Circular 54/51, dated 23 August 1951, states that the Timber (Control) Order 1951 (S.I. 1951, No. 1067) is now effective as if made by the Minister of Materials under the Board of Trade and the Ministry of Materials (Various Controls) Order 1951 (S.I. 1951, No. 1244). The Order came into operation on 2 July 1951 and supersedes all previous Orders made by the Board of Trade relating to the acquisition, supply, use and consumption of timber.

The hardwoods which are now subject to licensing control under the Order are: Canadian and American birch, hickory, rock elm, rock maple, American oak, teak (*Tectona grandis*), all specifications (except scantlings and strips 4 in. thick and under 5 in. wide and under), other than decks imported as such.

Plywood controlled under the Order consists of: plywood manufactured in the U.S.S.R., battenboard, blackboard and laminboard manufactured in Finland of any size, any other plywood manufactured in Finland being in boards of which neither the length nor width exceeds 74 in., plywood manufactured from softwood in Canada or U.S.A.

Shingles are, under the Order, free from licensing control, as they are excluded from the definition of timber.

MINISTRY OF WORKS. Sanitary Fire-clay Ware. The Minister has authorized an overall increase of 6½ per cent in the maximum home trade selling prices for sanitary fireclay ware. The increase, operative from 13 July 1951, has been applied as follows:

Urinal ware—percentage addition to list prices raised from 5 per cent to 10 per cent. All other ware—percentage addition to list prices raised from 15 per cent to 22½ per cent (P.I.73. MOW.76/51).

Building Plasters. The Minister has made an Order (S.I. 1951, No. 1379, The Building Plasters (Prices) (No. 3) Order 1951) providing for an increase of 4s. per ton in the maximum prices of building plasters, with effect from 7 August. The Order is obtainable at H.M. Stationery Office, price 2d. (P.I. 73. MOW. 90/51.)

NEW BUILDING BYE-LAWS, LONDON. The London County Council approved the proposed new building bye-laws at their meeting on 31 July. These bye-laws are made in pursuance of the London Building Acts 1930-1939, and in accordance with section 8 (a) (ii) of the London Building Act (Amendment) Act 1935 a copy will be sent to the persons named in that section. They will also be advertised in the press, including technical journals, so that any objections may be made within six weeks after the publication of the advertisement. Owing to the holiday season the publication of the statutory advertisement will be deferred for a few weeks. Copies of the bye-laws will be available at County Hall for inspection without payment, and they will also be on sale. After any objections have been considered by the L.C.C. steps will be taken to discontinue the existing bye-laws and fix the date when the new bye-laws should come into operation.

MINISTRY OF EDUCATION. New Colleges of Further Education. The Ministry have issued Building Bulletin No. 5, *New Colleges of Further Education*, obtainable at H.M. Stationery Office, price 3s. net.

Ways of planning and building new colleges are suggested to meet the wide and growing demand. The 1952/53 annual building programme recently announced to local education authorities contains fifty-eight projects of the types covered by the Bulletin.

Circular 236, dated 25 August 1951, issued by the Ministry, states that the Bulletin concentrates on new colleges designed to provide a wide variety of courses, and Parts 1 and 2 deal with the principles of planning and development. Part 3 is concerned with costs, and it is proposed that a cost limit should be set for each scheme by applying a fixed cost per sq. ft. to the superficial area. So that accurate preliminary estimates of cost can be made before a proposal can be properly included in a programme, a detailed schedule of accommodation is necessary which should

include every item, i.e. teaching, communal and administrative, together with an allowance for circulation and ancillary accommodation. Sketch plans submitted to the Ministry should show, as far as can be foreseen, all stages in the complete development of the college, together with a report on the required form. Working drawings only in respect of an instalment of the building need be submitted provided a sketch design of the whole scheme has already been submitted or is sent with the working drawings of the instalment. This procedure will apply to all projects in the 1952/53 and later programmes.

LAW CASES. Shanklin Pier Ltd. v. Detel Products Ltd. In this case paint manufacturers represented to the owners of a pier that a paint which they manufactured was suitable for repainting the pier. In reliance on this representation the pier owners specified that contractors under a contract with them to repaint the pier should use the paint. The paint proved to be a failure and the pier owners suffered loss in consequence.

The Judge held on the facts that the representation was a warranty; the consideration for the warranty was that the pier owners should cause the contractors to enter into a contract with the manufacturers for the supply of the paint for repainting the pier; and, therefore, the warranty was enforceable and the paint manufacturers were liable in damages for the breach, and that the pier owners were entitled to recover from the paint manufacturers £4,127 10s. as damages for breach of the express warranties. (All England Law Reports, 1951, volume 2, page 471.)

Rose v. Taylor. This case arose out of a party wall award under the London Building Acts (Amendment) Act 1939, Part 6.

The building owner served a party wall notice on the adjoining owner (a lessee who held a lease which had 3½ years still to run) stating his intention to 'pull down and rebuild the party wall as previously existing with new foundations if necessary.'

The building and adjoining owners' surveyors disagreed as to how the expense of the work should be borne, the building owner's surveyor contending that it was necessary to pull down and rebuild the party wall on account of it being defective within the meaning of Section 46 (1) (a) of the Act, and that the expense of the work should be apportioned between the building and adjoining owners, and the adjoining owner's surveyor contending that the party wall was not so far defective as to make it necessary to pull it down and rebuild it and that the expense of the work should be borne by the building owner.

The difference was then referred to the third surveyor, who signed an award with the adjoining owner's surveyor which determined by clause 1 that 'the party wall was sufficiently sound for the adjoining owner's purpose.' The award went on to provide that the building owner should bear the expense of pulling down

and rebuilding the party wall. The building owner's surveyor did not sign the award.

The building owner appealed to the County Court under Section 55 (n) of the Act on the following grounds:

1. That the award incorrectly determined that the party wall was sufficiently sound for the adjoining owner's purpose.
2. That the work the subject of the award was necessary on account of a defect or want of repair of the party wall.
3. That the expense of the work to be done under the award ought to be apportioned between the building and adjoining owners under the provisions of section 56 (1) (a) of the Act.

After hearing evidence the County Court Judge said that the question of rebuilding the party wall arose from the decision of the building owner to pull down his premises and rebuild them as modern offices, and that the District Surveyor was called in in relation to the proposed work and advised that if this were done the party wall should be rebuilt. On the evidence the Judge came to the conclusion that any necessity for rebuilding the party wall was not 'on account of any defect or want of repair' within the meaning of Section 46 (1) (a) of the Act, but was because it was of insufficient strength for the purposes of the intended building of the building owner within the meaning of Section 46 (1) (f) of the Act, and that therefore the expense of such work should fall on the building owner within the provisions of Section 56 (1) (e) (ii) rather than be shared with the adjoining owner under Section 56 (1) (a) of the Act.

The Judge upheld the award but with a modification in the wording of clause 1, which he amended so as to read: 'that it is not necessary to rebuild the party wall on account of any defect or want of repair.' The Judge said that he did this because in his view clause (1) of the award appealed from was a wrong approach in law and also to what he considered the true intention of the surveyors who signed the award. The length of the adjoining owner's lease was irrelevant. The award was approved in other respects, the result being that the building owner should bear the expense of pulling down and rebuilding the party wall.

The building owner appealed to the Court of Appeal from the County Court Judge's judgment. The Court of Appeal in giving judgment dismissing the appeal said that the ground of the appeal was that there was no evidence on which the County Court Judge could find that it was not necessary to rebuild the party wall on account of defect or want of repair. What had to be decided was whether, on the evidence, the rebuilding of the party wall was necessary 'owing to defect or want of repair.' There was no dispute that the party wall was defective, but the question was whether it was necessary to rebuild. It seemed quite impossible for the Court to say that there was no evidence on which the County Court Judge could arrive at his decision and therefore the appeal failed.

Town Planning and Architecture as an Expression of Their Time*

By W. M. Dudok [H.C.M.], Royal Gold Medallist

OUR SHATTERED world is faced with a town-planning and architectural problem that is more far-reaching than our civilization has hitherto known. Why must we accept this problem in a modern and not in a traditional spirit? We must do so because artists are people who live in the present, or even actually in the future; because the creative spirit, in general, aims at the renewal and not at the repetition of form; because we are by nature renewers.

These are reasons enough, and with them I might have ended. Had I done so I should not have convincingly helped your *Société* of modern architects in your struggle against a society which, generally speaking, is conservative—a struggle which is international and of all time. I will therefore try to justify a modern approach which I try to put into practice, and I will add a few critical observations, for I am far from accepting everything which presents itself as 'modern'. I think I can best serve modern architectural art by fighting against its excesses and absurdities.

What is the ultimate object of town planning and architecture? *It is the harmonious organization of the spaces necessary to mankind and to society.* Let us be quite clear about this.

When I survey the architectural field from the whole to the details—and this, I think, is a logical line of thought—I first of all come to:

The Town Plan

What demands our immediate attention is the relation which must be established between the town as a whole and its environment—the surrounding country. In our time, with its alarming increase of population spreading chaotically over the whole country, things can not be left any longer to chance. The countryside must be protected against uncontrolled expansion of our cities.

The preservation of the countryside has become a deep concern of the people and is for them a primary necessity. Naïve pride in rising population figures is yielding more and more to the more just view that human happiness gains nothing at all from the unlimited growth of our cities. Quicker communications, not only by vehicles like the motor-car, but also by sight and sound, through the telephone, radio, and cinema make people less dependent for the advantages of cultural life on the large centres of population. The very nature of communications has been modified. If railways, bound as they are to a rigid network of lines, have brought about a concentration of the population, it is no less certain that the far

freer movements of the motor-car tend towards decentralization. This decentralization is now necessary, because the unlimited expansion of cities and the unchecked increase of traffic create in the centres of our towns problems which are practically impossible to solve.

Prevention is better than cure; it is high time for us town-planners to think not only of the expansion of towns, but also of their restriction. The advantages of concentration have their limits from every point of view and in every field: why should not the same thing apply to town-planning? Let me not be misunderstood; when I recommend the limitation of cities I refer of course to their horizontal expansion. Life is dynamic, and a living city is constantly evolving; for this reason the possibility of life and evolution must be maintained within the limited town. The kind of growth I have mentioned, however, this ceaseless sprawling of the town out into the country, is often nothing more than mere inertia, and I am firmly convinced that it would in most cases be better to restrict this growth.

We have done this, for example, at Hilversum, and I am somewhat proud of having taken the initiative. Here we preserved the natural beauties of the surrounding countryside—beauties which are the principal *raison d'être* of this flourishing municipality—by surrounding the town on all sides with natural reserves where all building is forbidden; and so we deliberately conceived the plan for the expansion of the city as a plan for its restriction and limitation. Just as towns some centuries ago were encircled by fortifications, so Hilversum is now surrounded by green zones, which seems to me to be a far more human state of affairs.

I remember quoting this example from my own personal practice in a lecture given in London in 1934. Impressed by the terrible problems of traffic and housing in London, I put the question to my colleagues whether it would not be wise to restrict the growth of London, or at least to control it systematically. How could I have guessed that 10 years later Abercrombie would have the courage to follow this same line of thought and to pursue it to its final conclusion by removing a million Londoners to satellite towns, to be built in country areas? What a blessed idea for Greater London. Decentralization, in fact a typically modern conception in town planning; decentralization and the struggle against the overgrowth of towns!

If we further consider the town in itself, the harmonious organization of space—as I have already called the first principle of all architectural art—demands above all

the systematic distribution of the districts allotted to work, dwellings, traffic and recreation. It is convenient for the zones allotted to dwellings to be situated close to those allotted to work, but also not far from the green zones, whose importance can not be exaggerated. We do not want amorphous towns any more, and now we are striving towards a systematic hierarchical town, ranging from dwelling to neighbourhood unit, from neighbourhood unit to district,† from district to the whole town. And here, too, the idea of decentralization makes itself felt: we give to these various elements of the town, especially to the district, great independence and thus greater complexity, and we surround these quarters by green belts. In a certain sense this is nothing more than one of the facets of our struggle against the overgrown town. The systematic introduction of green recreation areas, like arteries, into the stone town is another typically modern element of present-day town planning. It is true that towns already have parks from the past, although far too few of them, but the recreation area has never been conceived in such a systematic relationship with the dwelling area as at present.

The Form of the Town

I come now to the architectural formation of towns. A good town plan must be made in harmony with the town's character. A plan without character is not a plan at all. It is the town-planner's task to express this character very clearly. The buildings which make up our towns must not stand chaotically one beside the other. The town plan must lay down precisely how the various buildings are to be distributed, since this distribution is of social, economic and aesthetic importance. A town's beauty is not accidental, is not the outcome of chance, it is based on precise and well-timed repetition and variation. To achieve this a good town plan must contain the necessary instructions, not only for two dimensions—a plan—but in three dimensions, at least roughly.

In this spirit I have usually worked out my detailed plans, and I believe that only in this way can the town planner fulfil his calling with a full awareness of his responsibilities, in order to create a good and beautiful town, although this will now be achieved in a way quite different from the past methods. For circumstances have fundamentally changed, and never before have such powerful forces existed for a truly fresh approach.

Individual houses, built one after the other, with all the variety of forms in which

† Or borough.—Ed.

*A paper read before the *Société Belge des Urbanistes et Architectes Modernistes*.

the owner's wishes are expressed, as well as the artistic gifts of the architect; this perfectly normal factor, quite characteristic of our old towns, has now become a rare exception. In its place we see housing schemes being elaborated on a massive scale. It is true that in the construction of these dwellings a difference is still made between the family house, the block of flats, and the occasional skyscraper, etc., but it is nevertheless obvious that standardization and reduction to a few basic types is the logical and inevitable basis of such a way of housing the population. Thus housing is reduced to nothing more than a module which is repeated again and again, and can not even pretend any longer to express the individual life of the family. Wealthy citizens of the past who built their own palatial houses in the choicest sites in the city have now disappeared. Economically the different professions and classes are gradually mixing, and although there are still some rich people left, they do not seek large houses, because they are more and more short of servants. So that we now can watch the houses of the privileged and of the less well off becoming more and more similar in their architecture.

So, in ordinary housing, we no longer see the attractive contrasts of the architecture of the past, and this would be an impoverishment of our towns if we had not new factors at our disposal which are hopeful. Indeed we have great confidence, for present-day demand has brought with it the possibility of creating an entire district, conceived as a whole, and this makes it possible for us to look at town planning as an 'Art of Space'. I believe it was Berlioz who said: 'The most beautiful instrument? the orchestra of course!' Is not the town the most beautiful architectural work? For our collective life, with its many facets and points of view, manifests itself in our cities and suburbs as a wealth of many-sided variety. A survey gives us some idea of what one may expect in the way of administrative buildings, churches of different denominations, all kinds of schools and colleges, recreation halls, sports stadiums, etc. In my opinion it is the town-planner's job to distribute these special buildings, or at least to suggest where they should be situated in such a way as to introduce the greatest natural variety into the ensemble.

It was in this way that I conceived my task, but it goes without saying that this work has to be carried out with all the necessary adaptability. In this way we shall be able to introduce into our towns a synthesis which is at once logical and beautiful—a synthesis which includes the classical element of repetition, in accord with our modern housing system, and which includes also the romantic element of variety achieved by the careful distribution of the special buildings. And in spite of the limitations forced upon us by the financial difficulties of our times, I perceive here nevertheless a real possibility of a typically modern beauty for our new towns, since one can produce a beautiful town by the simplest means. Shouldn't we cease to

be artists if beauty were not our ultimate aim? Such an idea presupposes the harmonious collaboration of the town-planner with the architects who take part in the building of the town. The very nature of their respective tasks determines their interdependence as well as the natural limits set to the intervention of each in the other's work. The architect who builds in an existing town recognizes that he must submit to the elementary condition that his design should be considered in a definite relation to its environment. The architectural function of the town plan is to give the architects positive instructions which will enable them to work together harmoniously in an as yet non-existent town. Personally, I have never felt cramped when, as an architect, I had to design a building to be fitted into a town plan made by a colleague. *A good architectural design is not worked out in complete freedom, but rather by accepting reasonable restrictions.* Besides, it is obvious that a town plan must possess sufficient elasticity, so as to impose less or greater restrictions upon the architect, according to necessity.

Under these conditions a good town plan will inspire rather than hinder the architect. I have no difficulty in finding arguments to support my confidence in such a collaboration between colleagues, a collaboration which serves the interests of all.

Alas, I doubt very much whether our political organization will sufficiently support the sound conception of town planning which I have just described.

During the Baroque period, the last and, perhaps, the finest period we have known in town planning and architecture, it was possible to create magnificent works because a King had placed his confidence in an architect, and because he caused the architect's plans to be executed in their entirety. I certainly do not long to return to a period like this, since I know that the beauty which we still admire was very often bought at the price of the blood and tears of the people. In the same way I recognize that society, and town planning too, have become so complex that a good town plan can now be only a work of collaboration. The essence of creative work has not, however, been changed, and one man must always determine its final form, even if several have contributed towards it. But at the moment the endless difficulties are only just beginning. Has not each of us experienced how our democracy lives too much in speeches and on paper, in committees, and by compromises, and that it knows too little of authority and confidence? Will it never be possible for our form of democratic government, reasonable as it is, to build a cultural democracy in which creative work may become possible? I am not talking of dictatorship, but of a co-operative hierarchy of creative workers who, free of every taint of oppressive bureaucracy, will allow society to profit from the talents at their disposal without making futile compromises. In short what I propose is another kind of decentralization; a decentralization of the mind.

Modern architecture

At this point I shall turn from town planning to a consideration of modern architecture.

Nowadays we can construct anything we like. This is a liberation, but at the same time, a danger for architecture. Such confusing slogans are current about the relationship between construction and architecture that I think it necessary first to devote a few words to that question.

It is needless to say that efficient construction is the first requisite of good architecture, but do not let us be so foolish as to identify the two, and expect that correct construction will automatically lead to good architecture. If you wish to know a language you must master its grammar and syntax, but this knowledge will not make you into an author or a poet. Construction is a means, a very important means I willingly admit, so important that without it no architecture is possible, just as little as poetry is imaginable without language. However, construction is never more than a means of which the architect makes use according to his needs, and it should never be allowed to dominate him.

Why only *visible* construction should be considered as *honest* work has never become clear to me. It is neither necessary nor important that construction should always be visible; such is not even the case in nature. No one would deny the efficiency or the beauty of the human body because the skeleton is not outwardly visible. One senses its presence although it is hidden from view. In the same way there are splendid building materials which must be kept out of sight; steel, for instance, which must be protected against rust and made fire-resisting by a covering of other material. I fully appreciate reinforced concrete as a means of construction, but I don't like its colour, and I do not see why I should not be allowed to cover a good concrete construction with a material of finer colour and texture.

But this is not all. I well remember from the early years of the modern movement the so-called 'honestly' constructed pieces of furniture, which were so demonstratively 'honest' that they were downright ugly. Along the heath, behind my house, runs an electric railway with excellent and honestly constructed portal frames of reinforced concrete, and how ugly it is, and how it disfigures the beautiful landscape! Don't misunderstand me; I also want us to build in an efficient and uncomplicated way and I know of buildings which excel by their ingenious efficiency. I also, naturally, think it important to build so that full justice is done to the character of the material used and to the method of construction, even if the material like the skeleton is hidden from view. I think these few examples will suffice to show that architecture is something different, and something more than the mere art of good building, of good construction.

What, then, is this 'more'? I will endeavour to explain this because I am addressing colleagues who will grasp my

meaning. We have all of us known that wearisome search and those happy liberating moments in the struggle with the blank sheet of paper on our drawing board. Here we are, then, with our building programme: our minds are as blank and unbiased as the white paper before us. Anything may come out; anything may appear on the paper. Then begins the calculating and grouping of the required spaces in relation to each other: practically, methodically, logically. Soon it appears that there are various possibilities, no matter how much to the point and how critical we may be.

As a matter of fact, a simple labourer's cottage with three or four rooms offers more possibilities for spatial distribution than a gigantic battleship, the shape of which is determined by the very special purpose and function of each of its parts. However much one may aim at the straightforward solution of the demands of the programme, there are always various possibilities for the architect. This means that functionalism, however important an aspect of architecture it may be, is not its determining factor.

What, then, is this determining factor? I am no art-philosopher, and gladly leave philosophy to those who work at a writing desk and not at a drawing board. All the same, I have a clear conception of the nature of the profession that is so dear to me, and I am old enough not to hesitate in making my meaning clear to you, the more so since you so graciously invited me to do this. *I maintain that building only becomes art when it is sublimated by beautiful and harmonious space-proportions, which ingeniously express the purpose and especially the cultural significance of the building.*

Architectural art has really but one means: proportion; the proportion of spaces and building masses in both form and colour. That is where architecture is akin to music, because music, too, is based on related values. It is not true that architecture is the most material of all the arts; as an art it is just as immaterial as any other form of art because *its significance is not in its material, but in its spiritual values, namely, in how the architect has managed to express an idea in terms of spatial relationship.*

What do I mean by this? I mean that a town hall which is merely an excellent office building, albeit with good reception and meeting halls, is not necessarily a specimen of fine architecture. Added to its efficiency it must possess something of the dignity which symbolizes its civic authority. Neither is a theatre an example of good architecture when it merely has good acoustics and even if there is a good view of the stage from every seat. The whole building must tune its visitors to festive gaiety, in anticipation of what they hope to experience in it of cultural value. A school building is not 'architectural' only because the children attending it sit in large airy rooms: the building itself must be a lesson in the goodness and reason which the children will learn—if possible

a friendly lesson. I mean that a church is not necessarily a piece of good architecture if it is merely a good meeting hall, where one can hear the preacher distinctly and follow the service without difficulty: unless it is at the same time a place which expresses devotion to the Creator, it has little in common with architecture. I give but a few examples.

All this is not a question of more or less luxury, or of ornament: the entire structural proportions must help to express spiritual values. These are values extending beyond time; they are values for eternity, they raise architecture above the changes of fashion. These are the values which throughout the ages have held good in all true architecture; values which our architecture can not and may not do without, if it is to remain worthy of its name; values which can not be replaced by slogans and catchwords such as cubism, futurism, functionalism, terms which appear and disappear in as quick succession as women's fashions.

When we look at the reproductions of so-called modern architecture in art journals all over the world, we are struck by a superficial likeness in all these. Those flat topped cubes with innumerable storeys and endless horizontal rows of windows, clever buildings which only impress us by their grandiose dimensions: how are they related to their soil, their surroundings, climate and their purpose? And above all, what are they trying to express? Undoubtedly these buildings are excellently constructed, but just in this connection I consider it a danger that we can construct so well, because I fear that the essential is likely to be overlooked and that many of the so-called modern buildings get stuck at the construction stage and never reach the field of art. I have for instance a sincere admiration for well-thought-out construction, for scrupulously studied details, for the original choice of materials and the evidently magnificent building organization of the United Nations building at present in course of construction. These are indeed most praiseworthy qualities. But does such a solution in any way express the noble idea of the highest degree of human co-operation? Surely a motor-car concern could have built itself an office building of this kind. In fact, have not great industries done this already?

I have sometimes been struck by development schemes for modest towns in thinly populated countries, where one is glad after endless roads at last to come across a village. Just imagine. These development schemes consisted of a few skyscrapers—and why? Don't you think this good village folk would live far more happily in a gay garden city, with bright little houses for each family? This would, of course, be less spectacular, but from a human point of view surely better, and more beautiful, to say nothing of the economic side of the question. When I feel compelled to protest against such manifestations, though in some professional circles they are looked upon as examples and by some are even considered as summits of the art of archi-

ture, I feel I must explain that, nevertheless, I have great faith in our modern architecture and its many possibilities of development. The fact that the technique of construction allows us unlimited freedom is of course not only a danger, it can equally well be a blessing if ingeniously used to promote the true architectural values I have just mentioned. Let me repeat: *architecture is the beautiful and serious game of space: we must play that game in our own fashion by expressing the time in which we live; and the modern apparatus of construction offers us typical modern possibilities.*

The logical principle of building which splits up the various functions, by using steel or reinforced concrete as load-bearing framework—this modern principle makes spans possible which formerly were unthinkable, and permits constructions of almost immaterial lightness. The enclosure of space, this method of expressing space, can become impressively light, clear and transparent, thanks partly to the use of the flat roof, which we owe to the properties of bitumen. This directness, this way of building without complicated methods of getting round difficulties, is to my mind the characteristic of our modern architecture.

I greatly admire the Baroque style, which has created impressive spaces; often singing spaces of great dignity and festiveness: But how solidly constructed those space-enclosures had to be: the walls, ceilings, vaults, became an end in themselves: they claimed a good deal of attention and were decorated with the overburdened ornamentation of the period; a period indeed of greater refinement and greater luxury than ours, but lacking our wide horizon. Modern man has no wish for a superfluity of ornament. He finds in architecture, as in all other manifestations of art, that the most striking effect is often attained by the very simplest means.

We know very fine drawings, made with but a few lines, drawings in which complete expression has been obtained by the art of omission. We know the same economy in music. Mahler has written symphonies scored for a huge orchestra; for me, as for many, often too noisy. But in his 'Kindertotenlieder' and his 'Lied von der Erde' this much discussed composer reaches solitary heights, for the very reason that he leaves out so much. Similarly in literature, we know passages in which the essential is not even mentioned, but is nevertheless revealed between the lines. In the same way modern means of construction afford us the opportunity of doing without many things in our enclosure of space and thus attaining a stronger expression of space.

The other day I received an American journal with, among other illustrations, those of a design for the building of the 'Idlewild' municipal airport, New York. I was struck by the spatial effect of those huge halls, from which the traveller can freely survey the entire aerodrome. The building has the same directness of shape as the aeroplanes which land around it. This seems to me the art of space, in complete harmony with the object of the building.

As a far more modest example of what I mean, I can quote a recently completed project from my own practice. For the harbour town of Amsterdam, Velsen-Ijmuiden, I planned a new town hall, on a newly projected square. The council chamber, seat of the town council, juts forward on the first floor, facing the square. The main entrance is situated under the shelter of this projecting room, built on two pillars. The building makes, as it were, a decidedly expressive gesture: like an outstretched fist this council room projects on to the square, a symbol of the grip of authority. How simple, and with how few constructive means is such an effect to be obtained nowadays!

This has brought me to the last of my reflections. I hope I have made it clear to you why I pin my faith to the future of our architectural art. I am convinced that if we build in this simple spirit—the best because it is simple—on the basis of feasible extension schemes, making use of the splendid modern means at our disposal, we shall be able to raise towns in which space will sing again.

Does this conception of mine lead to any specific 'modern style'? I never concern myself much about this question. The artist's free attitude towards his building problem will always lead to individual variations and these may even enrich the town's appearance. I certainly do not anticipate so strong a unity of form, nor such a general appearance of similarity of details as in former periods. Life has become far more complicated than it was, and in consequence our society demands greater variety in building, for a far greater diversity of purpose. It seems to me that if we face our problems on this reasonable and obvious basis, without the preconceived object of doing everything differently *pour épater le bourgeois*, and with the modest attitude of servants of the community, hoping to be allowed to make something good and beautiful with all the resources our time has allotted us, for the good of everything that our time demands of us, then no doubt a spiritual unity, a common character will be manifested in all our work. And that, after all, is style.

Nothing beautiful has ever come into being without the determination of the artist to attain beauty, and his complete devotion to this end. May we be led not only by *sagesse de l'esprit* but also by *sagesse de cœur* so that we may give to this thrilling age its own captivating beauty—a beauty which is essential to life.

Translated by A. Thompson of the R.I.B.A. Library staff.



Edwin Stanton's Monument to Elizabeth, Lady Isham, in the Isham Chapel, All Saints' Church, Lamport

By Sir Gyles Isham, Bart.

MRS. ESDAILE, writing in the R.I.B.A. JOURNAL on 14 January 1933 (Vol. 40, 3rd Series No. 5), on 'The Tomb of Sir Justinian Isham at Lamport', stated that she had discovered that the design for one of the existing monuments in the Isham Chapel at Lamport Church was among the papers and plans then deposited on loan in the R.I.B.A. Library. She rightly concluded that this design was the work of Edward Stanton, as she had conjectured on her visit to Lamport in 1928. Had she known it, there was further proof in the Isham letters—then, as now, deposited in the care of the Northants Record Society—that Edward Stanton designed this particular monument.

On 22 August 1713 died Elizabeth, Lady Isham, the wife of Sir Justinian Isham, 4th Baronet of Lamport. Sir Justinian, who sat as a Tory in 14 parliaments either for the town or county of Northampton from 1685 till his death in 1730, was much attached to his wife and prostrated by her death. It was with difficulty he was persuaded not to resign his seat in Parliament. It is clear from his correspondence that the provision of a proper monument to her was of the greatest moment to him.

On 18 January 1713-14, Sir Justinian wrote to his eldest son Justinian ('one of the Commissioners for the Duty on Hides etc. in St. Martin's Lane, London') 'I desire you to ask my brother Turnor if and whether the seat in Lincolnshire is not commonly writ Stoke Rochford, which directions may serve for an Inscription which I design in Memory of my ever to be lamented spouse. I can say no more now but that I am your Still Most Afflicted but affect Father J. Isham.' On 13 February he wrote again, 'I have enclosed here a Draught of a Monument which I desire you will show to some stone cutter in town, and know for how much they will make such a one, the Height is to be 8 foot, and 4 foot 4 inches broad in the widest place. Staunton that lives near St. Andrews Church in Holborn made that I have now, and you may enquire of him if he is alive, or anybody else you have a mind to. As soon as you are satisfied to the value of it, pray return it to me again.'

The allusion to the 'monument that I have now' is presumably to the monument put up by Sir Justinian in 1700 to the memory of his father Sir Justinian Isham, 2nd Baronet, who died in 1675, and his brother Sir Thomas Isham, who died in 1681, and his two sisters Mary and Vere, all dead before 1700. In his account book

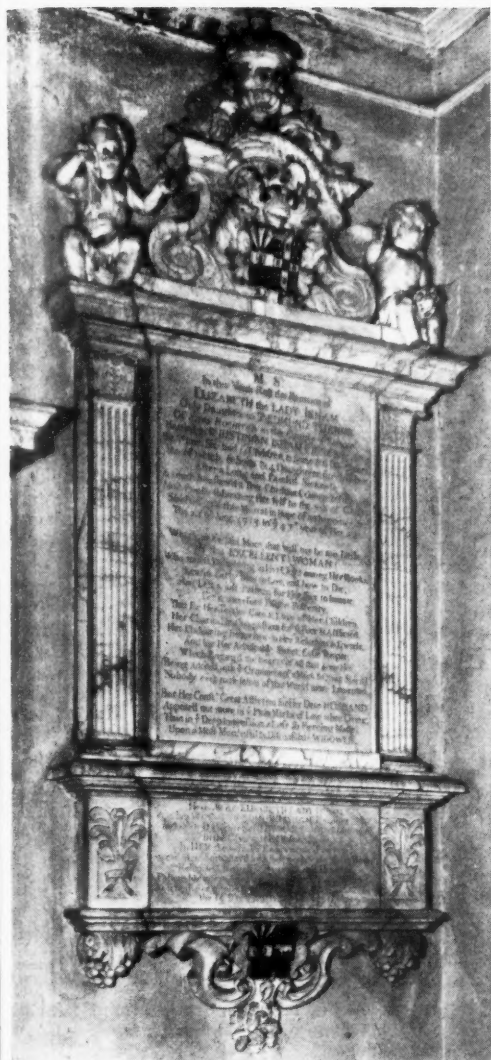
(Isham Diaries D.) on 9 February 1699-1700, Sir Justinian noted 'Pd. Stanton in part for a Monument 10/00/00,' and on 19 November 1700 'Pd. to Stanton at London in full for ye monument . . .' (edges frayed, indecipherable).

Mrs. Esdaile surmised (without this evidence before her) that this monument might be the work of the elder Stanton, William. (Article in R.I.B.A. JOURNAL 1933 *op. cit.*)

It is unfortunately nearly completely hidden by the organ, but is a fine thing with twisted black marble pillars. It is quite likely to have been William Stanton's work as, writing 14 years later, Sir Justinian queries whether he is still alive.*

On 20 February Sir Justinian wrote to his son, 'I put to you to enquire what the value of such a Monument as that Draught might be, because I did not think it good enough for the price which I proposed to the stone cutter at Northampton to make one for; who tho he is accounted a good workman, being apprentice to Gibbons ye carver yet I think is very unreasonable, who if he did it was to have 55 ll., and if he made the Table 2 inches larger, and the rest of the work proportionable to that, would have 60 ll. Therefore I think it much better to have Staunton make it, who had but 68 ll. for that I have already, which is much larger, being 10 ft. high and five broad. Pray speak to him about it, and bid him send me a Draught of one at least 8 foot in Height, and the Breadth proportionable to that, for the Table must contain 30 lines, and some of them will have at least 50 letters, which with the space that must be betwixt word and word, will make it pretty large. Tell him I desire he will send me a Draught, or more that I may take my choice, which will come to about 55 or 60 ll. which I hope will be much better than what I have sent you, it being valued but at 35 ll. . . . I would have an account from Staunton as soon as may be, because it may be finished in ye Summer before the ways are bad.' The 'stone cutter at Northampton' was John Hunt, several of whose works are in Northamptonshire and other nearby churches, the best known being the Monument to Sir William Boughton (1716) at Newbold-on-Avon (illus. No. 20 in Mrs.

* Proof that William Stanton did this monument is afforded by a letter dated 20 August 1700 (Isham correspondence 1630) from William Stanton to Sir Justinian, in which he says he has sent his servant to John Summers 'to set your Hon^{rs} Monument up', and sends his bill for 64.10.0 noting he has already received 10 ll., and separately itemising the 'Twisted Pillars' for 04.00.00.



Monument to Elizabeth, Lady Isham, by Edward Stanton

Monument to Sir Justinian Isham, 5th Bart. Attributed to Pieter Schaemaekers

Esdaile's *English Church Monuments*, Batsford 1946).†

On 13 March Sir Justinian wrote 'I have fixed upon one of the Draughts Stanton has sent me, and have wrote to him about it. I have enclosed here a paper which I would have you get transcribed, after you have showed it to him, and he has consented to it, which I don't question he will do with very little alteration, and let him set his hand to it. I could not say the Monument to be all of white marble, because I can't tell he may think it proper to put some black among it. I believe the Man to be a

fair dealing in his profession, and therefore may be trusted in what he saies, which makes me not so strict in drawing up the agreement. I thought to have sent you the inscription now, but I am not able to write it out at this time, but hope to send it you in a Post or two. . . .'

The Draught is the design still existing—which Mrs. Esdaile reproduced in the R.I.B.A. JOURNAL article—on which Sir Justinian wrote 'This is the draught I approve of.'

The tribute to Stanton's fair dealing is worth noting. There follow a number of letters regarding the wording which, as Mrs. Esdaile surmised, was Sir Justinian's own work. On 17 March he wrote 'I have sent you the Inscription I have made for the Monument of your Poor Dear Mother, and my ever to be lamented spouse; what I have said of Her, everybody, that knew her must own to be exactly true, though at the

same time can't but acknowledge it comes far short of what she deserves, which I am very sensible of, it being impossible to express all her good qualities in so small a compass. Therefore I have endeavoured to make it as plain and short as might be, avoiding all fulsome expressions that might in the least look like flattery, which I know she always abominated. Pray give it to Mr. Stanton, who I suppose will have it fairly transcribed, but tell him I desire the Lines may be as I have placed 'em and the great Letters before every word, with the stops observed as I have made 'em; and the proper names in a larger character, as also This Excellent woman, and wheresoever else he thinks it convenient. I have contriv'd that no Line exceeds 46 letters, and there are but 29 lines, besides the space of one line, which I would have, as it is written.'

On 27 March he asked his son to

† Baker states that at Upton Manor there was a bust of Mr. Henry (sic) Hunt, formerly of Northampton, a provincial statuary of some celebrity and pupil of Grinling Gibbons' (*Histories and Antiquities of Northamptonshire*, George Baker 1822-30, Vol. I, p. 226). 'Henry' is Baker's slip for 'John'. The statue of Charles II over the portico of All Saints, Northampton, set up in 1711-12, is the work of John Hunt. The Corporation paid £3 to Mr. Hunt for gilding the statue of King Charles the Second, and the Vestry on 21 April 1712 voted him £9 for the Arms on the portico. (*Records of the Borough of Northampton*, Vol. II, Ed. Cox 1898.)

show the inscription to his brother, John Isham, who lived in Great Ormond Street, London 'before you give it to Stanton for his approbation, and that he might have made any alteration if he thought proper, however it is not too late now, for Stanton writ to me about a week since, that if he had the Inscription within a month 'twould be time enough.' On 22 April he wrote asking that the word 'spouse' should be changed to 'husband,' as 'I find the word spouse in the inscription not well approved of by some I have showed it to, and the only reason why I put it in was, because Poor woman she was won't to call me by that name. . . . Pray go yourself to Stanton, and see it altered . . . and pray desire him to cut the letters so deep and after that manner, that the stuff he puts in 'em may not come out.' On 1 May he wrote to his son thanking him for the trouble he had given himself over the monument, and adding 'If I think of any more alteration to the inscription I will let you know it before it is cut.'

But he was not yet satisfied with the inscription, and on 8 May suggested a further alteration by adding the words, after 'long and painful sickness,' 'which she bore with a True Christian Courage and Patience.' Then 'I can think of no other amendment at present, and I hope it may do as it is, tho' everybody must own it comes far short of the character she deserves, which makes my loss so much the more insupportable.' He was still anxious over the cutting of the letters and wrote on 24 May, 'I don't very well understand what he (Stanton) means by painting the letters, I hope he does not intend to do that without cutting of 'em, and if he does that deep enough, he may either paint them or put black stuff into 'em which he thinks will look best, and be most durable.' At last even Sir Justinian appears to have been

satisfied with the inscription, although the blank place in his life left by his wife's death was felt as much as ever. On 24 July he wrote, 'Lampport is so dismal and melancholy a place now, that I don't know how to invite you to it, however I shall be glad to see you, when your business will give you leave. Before you come, I wou'd have you see whether the Monument is finished, and how long it will be before it is, and then desire Mr. Stanton to look out for safe carriage, which may be had at this time of year very cheap, at 2s. 6d. per Hd. or it may be less; Aldersgate St. us'd to be the place where by such carriages us'd to be had very reasonable.' On 15 September he reported, 'The Monumt is come down, and two men to set it up, when it is finish'd, if I find it as agreed upon, I will order you to pay Stanton.'

Finally, on 23 September, he entered in his account book (Diary E) 'Pd Mr. Stanton for a Momt for my Poor spouse. *Pietatis ergo* 55.00.00.' The inscription is accurately set down in Le Neve's *Monumenta Anglicana*, except that some of the capitals are not observed.

Sir Justinian's second son, Sir Edmund, who succeeded to the baronetcy on the death of his elder brother in 1737, used the blank space at the bottom of the monument to record the death of his first wife, Elizabeth, daughter of Edward Wood of Littleton, in 1748, and added his coat of arms, impaling his wife's at the base of the monument; otherwise it is today as Stanton's men set it up in 1714.

The monument to Sir Justinian himself, who died in 1730, was set up by his eldest son, to whom all the letters here quoted were written in 1732. This is, like the memorial to the first Sir Justinian, the 2nd baronet, nearly completely hidden by the organ.

A recent cleaning of the organ allowed, however, a better view of it, and from its style it appeared, as Mrs. Esdaile thought, to be much in the manner of Edward Stanton. But the fifth baronet's account book (Diary N) shows it to be of even greater interest, for on 8 October 1732 he notes, 'To Mr. Franc Smith for a Monument etc. 087/ . . .' The very Ciceronian inscription speaks of the dead baronet and his '*Dignitas quaedam venusta, et decor senatorius*.' It speaks of his piety ('*In divinis officiis assiduus erat et fervidus*'), his learning ('*Classicos inter authores, quibuscum crebro est versatus, familiares habuit Horatium et Ciceronem*'), and his long career in Parliament. Francis Smith of Warwick built Lampport Rectory for Sir Justinian ('*Mansum, hujus Rectoriae splendide extruxit*'), and added the library wing to Lampport Hall for his successor. He was also employed to classicize the church for Sir Edmund Isham. He was a builder-architect, and the midland counties contain many examples of his work, but apart from this example it is not known that he designed monuments.

The most splendid of the 18th century monuments in the Isham Chapel, however, and one which, luckily, is not hidden by the organ, was put up in 1737 to the memory of Sir Justinian Isham, 5th Bart., who left £500 in his will towards the 're-edifying and beautifying' of the church. Sir Edmund Isham's accounts have not survived, so the stone cutter of this monument is unknown, but the bust is the work of Pieter Schae-makers (1691-1781), and is an excellent example of the Flemish sculptor's work.[†] This monument and Stanton's to Elizabeth, Lady Isham, were cleaned and restored in 1935.

[†] It is probable that the whole monument is the work of Schae-makers. For this suggestion and for other references I am indebted to Mr. Rupert Gunnis.

Book Reviews

Piranesi Compositions, by [Giovanni Battista] Piranesi. Edited by Hector O. Corfiato. 11 in. x 8½ in. 12 pp. + 64 pls. text illus. Tiranti 1951. 12s. 6d.

Although *Architettura Veneziana* was the description that Piranesi was proud to give himself on the title pages of his books, his architectural practice was not extensive. His architectural knowledge, however, was enormous and this is one of the reasons why he has always had so great an appeal to the profession and accounts for the steady stream of books about him and his work. The newest is a selection by Professor Corfiato of 64 plates, together with a short 'life', and an appreciation of his work. The plates chosen, which are not arranged in chronological order, represent a fair selection of his etchings and drawings, starting with his own architectural designs done when he was a young man working under the influence of the scenic artists, the Bibiena family. The Views, *Vedute di Roma*, which have come to represent Piranesi in

the public mind, are well represented, but some of the reproductions are taken from much re-worked later 'states' instead of from the finer early Roman impressions, which would also have been more suitable for printing by the process used.

In any selection, especially from such a huge body of work as that left by Piranesi, there will inevitably be omissions that are regretted, but surely at least one of the frontispieces should be included in a book called *Piranesi Compositions*, and an example of the lovely little oblong etchings *Tempi della Repubblica*, done like the *Carceri* when he was a young man, would have been welcome. Of the 16 *Carceri*, or Prisons, nine are included, one being from an early 'state' before the plate was elaborated and re-bitten.

Professor Corfiato's book is unique in including many original drawings from Piranesi's own hand, both of his dashing pen-and-wash sketches and his more careful studies, such as the two drawings in sanguine chalk from the R.I.B.A. library.

It is perhaps unfair to be too critical of the production of a book published at so modest a price, but some of the reproductions, including those of the *Carceri*, are

hardly good enough. Nevertheless the book brings together the drawings and etchings in a handy form and recalls the originals which are not readily accessible

GRAHAME B. TUBBS [F]

Gunnar Asplund, Architect, 1885-1940. Plans, sketches and photographs. Edited by Gustav Holmdahl, Sven Ivar Lind, and Kjell Odeen, with an essay by Hakon Ahlberg. (Svenska Arkitekters Riksförbund) English trans. [Cyril Marshall, trans.] Stockholm: Byggmästeren. 1950. £5 5s. Gunnar Asplund is one of the very few architects of this past half-century who will be remembered. In this fascinating illustrated monograph (the first published on a contemporary Swedish architect) his colleagues and rivals pay a most handsome memorial tribute to his undisputed leadership.

Asplund was the greatest representative of a Swedish architectural generation, the British equivalent of which simply did not exist. If we had had an architect with the attitude and gifts of Philip Webb, born in 1885, who developed Webb's free and contemporary use of our indigenous tradition in the context of a national architectural

renaissance, and carried it forward in searching technical and formal experiment into maturity in the '30's, he would have been a man such as Gunnar Asplund. Instead, Webb's advancing tradition was swamped by an architecture of pastiche, commercial ostentation and imperial display. It is instructive to compare this book with the memorial volumes of Asplund's greatest English contemporary, Lutens.

Told in over 500 drawings, sketches and photographs is the story of Asplund's development. Starting with the national romanticism of a pupil of Ostberg and Tengbom, seen in his Karlshamn school, he develops into those astonishing essays in contemporary forms using Egyptian and Pompeian themes, the Stockholm Library and the Skandia Cinema. With the 1930 Stockholm Exhibition he emerges (and was not submerged as were so many of his west European contemporaries) as a master of Le Corbusier's discoveries, controlling them for his own purposes. This period is best represented by Bredenberg's store and the State Bacteriological Laboratory, and it merges into what was prematurely the last phase, the maturity of his later sections of the Woodland Cemetery and the State Archives project. In each of these remarkable schemes Asplund said and did something that nobody had before; in the Woodland Cemetery and the Skandia Cinema (now alas mutilated) he has pierced through an architecture of abstract appearances to a whole architecture of character and atmosphere, with results both impressive and surprising.

Like Webb, Asplund was both an artist-architect and a master of construction. A brilliant draughtsman (see his Italian sketches), he was connected with the beginnings of the national arts and crafts movement and himself designed furniture, light fittings, silver, complete interiors and gardens. The stables he built for the Bacteriological Laboratory are the buildings to show those who say you can not create architecture with asbestos sheeting and stock bricks.

Asplund had his failures, but this book is worth every penny of its five guineas, as each illustration has a lesson to teach. Every student whose school library does not possess it is being deprived of part of his education.

GRAEME SHANKLAND [A]

The New School, by Alfred Roth. (The Human City Collection series.) 9½ in. 222 pp. text illus. Zürich: Girsberger. 1950. £2 16s.

During the past 20 years in this country, planning and construction of school buildings have gone through a series of revolutionary changes, and since the war conditions have brought about rapid development, which can be seen in each annual programme.

Today, educational requirements, the physical needs of the children, and the technique of construction are considered as essential conditions for a satisfactory school, and the modern architectural expression is generally accepted. These conditions were comparatively rarely found in the school buildings of before the war. In

Roth's excellently produced book *The New School*, 10 of the illustrations are examples of pre-war buildings, and while these examples can not be considered new in the sense that they have recently been built, they can all be regarded as the prototypes of the contemporary school. These, together with the six war examples (one Italian, four American, and one Swiss) and the five post-war examples, give a clear picture of the new school in its widest sense.

Roth gives examples of 21 schools: three from Great Britain, seven Swiss, five American, two Dutch, and one each from Italy, Denmark, Sweden, and France. Each school illustrated gives factual information on the type of school, with notes covering the site, planning and construction.

The first part of the book deals with the more general aspects of school design, such as the relation of the school to the neighbourhood, the size of the school ground, past development, landscaping, classroom planning, furniture, lighting, heating and ventilation, structure, and prefabrication. This wide aspect of school design naturally only covers general principles, as the book is not related to the problems of any one country. It is, however, very refreshing to be reminded of these principles, as it is so easy to lose sight of them in dealing with the more mundane problems of getting a school started within the programme year.

DENIS CLARKE HALL [F]

Woodwork in York, by J. B. Morrell. (The Arts and Crafts in York series.) 11½ in. × 8½ in. 191 pp. incl. pls. text illus. Batsford, for the YORKSHIRE GAZETTE. 1949. £1 10s.

This book is the work of Mr. J. B. Morrell, twice Lord Mayor of York and Sheriff of the same city in 1938-39. It is a companion to the same author's *York Monuments*. In addition to the text and illustrations, it contains a useful bibliography, general index, and index to illustrations.

The 18-page introduction sets out the history of the carpenter and joiner from the 13th century to the early years of the 19th century. Interesting references are here made to the city's ancient documents, including 'The Freeman's Roll' dating from 1272, the York Memorandum Book commencing 1376, the House Books of the Corporation from 1474, and Ordinances contained in the Hailstone Collection of the Minster Library.

As the author points out in the preface, the many photographs were taken primarily as a record of existing woodwork in York during the war. This may be the reason for features such as doorways, windows, staircases, and chimneypieces being dealt with under separate chapter headings. It would perhaps have been better to describe the work of the craftsmen in wood chronologically.

The 11 chapters pertaining to many aspects of the art are illustrated by numerous photographs of a high order, which reveal the store of examples in a more readily-understood manner than any other.

The twelfth and final chapter is a short

survey of craftsmen whose individual work is known. Unfortunately, the attribution of individual works to their respective craftsmen appears to be a rare occurrence in the long history of York.

The work is useful as a record of much that is interesting in York and, judging by the index and close arrangement of the text and illustrations, it appears to be intended as a guide to the visitor, showing the great variety of examples to be inspected from early medieval carved bosses to the elegant details of the Georgian Mansion House.

G.D.H. [F]

New Ways of Building. Eric de Maré, ed. Articles by K. Hajnal-Kónyi [and others]. New ed. 9 in. × 7 in. 254 pp. incl. pls. text illus. Architectural Press. 1951. £1 10s. This book was originally conceived as a refresher course in new ideas and techniques for men who, through the war or for other reasons, had lost touch with recent developments and could devote little time to detailed study. It won immediate and deserved success, and now appears in revised and slightly enlarged form with many new illustrations. There are eight sections: Concrete, Steel, Timber, Glass, Brickwork, Light Metals, Plastics and Insulation; and each is written by a specialist on the subject. The volume differs from most building construction books in being pleasant to look at.

The City and Royal Burgh of Aberdeen. Survey and Plan—1949, by W. Dobson Chapman and Partners. (Aberdeen, city corporation.) 2 vols.: 1, Civic survey; 2, Planning proposals. dupl. typescript. 13½ in. + pls., some folding.

With a population of nearly 200,000, Aberdeen is the chief town in North-East Scotland, a large fishing port, a major agricultural and marketing centre, and an important gateway for tourists to the lovely valleys of Dee and Don, between the mouths of which the city lies. Generally speaking, it has suffered less from haphazard development than most towns in these islands of comparable size and there is little basically wrong with its sociological structure. The proposals set out here comprise improvements in detail, capable of realization within a period of three or four generations, rather than a comprehensive scheme of replanning that has little chance of being carried out. Briefly, the plan provides for 21 defined neighbourhood units, some redevelopment of the central area, considerable changes in the main road pattern, various improvements to the town's amenities and careful zoning of industry.

In July an impressive exhibition of the City Plan was held in Aberdeen, an indication that the Corporation takes the proposals seriously. A limited edition in one volume of the Survey Report and Planning proposals is to be published in due course. These are at present available only in two huge typescript tomes, very well illustrated, with excellent maps and stoutly bound, but inevitably cumbersome in the reader's hands.

J.C.P.

Practice and Procedure for the Quantity Surveyor, by *Arthur J. Willis*. 9½ in. xii + 184 pp. Crosby and Lockwood. 18s. Mr. Willis has made a further valuable addition to his works on Quantity Surveying which usefully fills a gap. The book is well produced, logically set out in a sequence which makes quick reference easy, and has useful footnotes and an adequate index and bibliography.

The introduction defines the scope of the book and sound advice is given to the reader in a quotation from Bacon: 'Read not to contradict and confute, nor to believe and take for granted . . . but to weigh and consider'.

Most topics are dealt with concisely and notes on methods used in approximate estimating and procedure in preparing bills of quantities, etc., are very helpful. There is a tendency to over-emphasize some comparatively minor points, but this is useful from a student's point of view.

In the preface the author analyses the need for such a book as this and visualizes readers as students about to take their Final Examination. With this in mind there seems justification for the many draft letters, forms and precedents given in the Appendices, and exhaustive lists of office equipment, furniture, etc., which would otherwise seem superfluous.

Throughout the book are numerous 'asides' which, in addition to making the subject matter very readable, are obviously based on extensive practical experience in all branches of the profession. Comments on the 'London Builders' Conference', 'The Structure of the Building Industry', 'Law', and 'Policy' are not only interesting to a student, but useful reminders to the more experienced reader.

The book is undoubtedly one to be studied with advantage by all intending Quantity Surveyors, and will also be well worth while for students and newly qualified architects to read as an excellent outline of the profession so closely associated with their own. LESLIE A. CHACKETT [F]

The Problem of England's Historic Churches. Eleventh report of the Central Council for the Care of Churches. [Articles by *E. de G. Lucas* and others.] 8½ in. xv + 131 pp. + pls. Mowbray. 1951. 6s.

The Central Council for the Care of Churches have done well, in the Festival of Britain year, to draw attention to 'The Problem of England's Historic Churches', for their importance in English life has been immense, and they are an essential feature of our landscape.

The magnitude of the problem is perhaps more easily appreciated by architects than by the average layman, but architects and laymen alike should read this report, which states clearly the serious condition of decay of many of our churches. It is too easily assumed by many that the problem is only a financial one, that if the money can be found the work of repair will follow without difficulty. Nothing could be further from the truth; every architect who is concerned with the repair of ancient buildings is faced with the problem of

finding craftsmen with the necessary skill and training to do it, and in outlying country districts this difficulty is sometimes insurmountable. The plain fact is that the technique in nearly all the trades in the building industry is changing rapidly, and the men employed in the industry, although perhaps still craftsmen in the modern sense, are not craftsmen in the old sense, and are quite unfitted for dealing with an ancient building. In more and more cases it is useless to look to the local builder to do the work.

It is, therefore, good to read that the Central Council has this matter under consideration, and that the possibility of the church employing and training its own body of craftsmen, presumably somewhat on the lines of the Ancient Monuments Department of the Ministry of Works, is being investigated. Architects, I think, would agree that this is the only answer to the problem, and if it is not tackled soon the core of craftsmen, around which such an organization must be built, will not be there to answer the call when it comes.

There is much else in the report that is valuable and interesting, but space does not permit mention of it. There are several photographs, but there appears to be some discrepancy between them and the text; for example, it is stated that a screen designed by Mr. Bernard Miller [F] is illustrated, but a search through the photographs fails to reveal it—a small blemish in an otherwise excellent and valuable report.

H. M. R. DRURY [F]

Smooth and Rough, by *Adrian Stokes*. 8 in. [82] pp. + 24 pls. Faber. 1951. 15s.

Essays on art criticism by Adrian Stokes are generally short, but they are anything but superficial. His latest is no exception, being a brief study of the psychological states controlling our responses to architecture. Obviously this is not a topic that will appeal to everybody, but those who find pleasure in speculation will probably like it, and some may also notice that this book contains a great deal of fine prose. The excellent illustrations are grouped at the end—a convenience, it appears, for publishers, but a nuisance for readers.

The Observer's Book of British Architecture, by *John Penoyre* and *Michael Ryan*. (The Observer's pocket series.) 5½ in. 218 pp. incl. pls. Lond., &c.: Warne. 1951. 5s.

An admirable pocket guide for the layman, concise and lucid in the text, aptly and charmingly illustrated with line drawings, many of which are partly in colour. J. C. P.

Town and Regional Planning Law in Ireland, by *John Miley* and *Frederick C. King*. 8½ in. xv + 202 pp. Dublin: Browne and Nolan. 1951. £1 1s.

Although of obvious importance to architects in Ireland, this book is of little interest in this country, since Eire has not yet brought the development value of land under national control. The law dealt with here differs little from that in Britain prior to the 1947 Planning Act.

Correspondence

THEORIES OF MODERN ARCHITECTURE

Sir,—The general impression I have gained from reading the mass of literature on contemporary architecture and from listening to Third Programme talks on design in general is that the architect is far from content to allow his work to speak for itself. Some explanation and justification for the modern idiom appears to be inevitable and it seems to be taken for granted that this justification must be made public in the form of a creed or doctrine based on psychology. Since some at least of the contemporary outlook appears to borrow heavily from the sciences it is a pity that this new architectural preaching should show so little evidence of a study of the science of the psychology of perception.

Perception includes not only the mechanical intake of sense data but also the mental processes set up by these data and the subsequent physical and emotional reactions. These mental factors in particular have been thoroughly investigated for some time and there is an extensive and authoritative literature on the subject which shows a wide discrepancy between present-day theories of architectural aesthetics and the known facts of perception.

The assumptions on which these aesthetic theories are based are shown in some cases to be no more than half-truths and in other cases to be just plain nonsense. Whether or not we agree about the value and interest of the architecture which is based on these fallacies, it is an intriguing fact that many of the psychological beliefs of Geoffrey Scott in his *Architecture of Humanism* are more in accord with modern knowledge than are most of the statements of Le Corbusier, Lloyd Wright, or their disciples. Indeed, these statements appear to have little more scientific depth than the political pamphlet or the religious tract, and I suspect that the work is really done first and a plausible creed fitted afterwards to justify it.

Since much of the modern work appears to be aesthetically very satisfying, surely it can be allowed to tell its own story and to suggest its own creed. If some explanation in human terms is absolutely necessary, can it not be based on something more worthy of scholarly respect than the pseudo-psychological jargon put across to the public with such a bland air of inevitability? The Bauhaus exercises in perceptive development appear to me to have been an excellent beginning in the training of students in the relationship of sense data but they do not seem to have been carried far enough in an age given to the easy concoction of slangy dogma.—Yours faithfully,

W. N. W. RAMSAY [4]

Review of Construction and Materials

This section gives technical and general information. The following bodies deal with specialized branches of research and will willingly answer inquiries.

The Director, The Building Research Station, Garston, near Watford, Herts.

Telephone: Garston 2246.

The Officer-in-charge, The Building Research Station Scottish Laboratory, Thorntonhall, near Glasgow.

Telephone: Busby 1171.

The Director, The Forest Products Research Laboratory, Princes Risborough, Bucks.

Telephone: Princes Risborough 101.

The Director, The British Standards Institution, 28 Victoria Street, Westminster, S.W.1.

Telephone: Abbey 3333.

The Director, The Building Centre, 9 Conduit Street, W.1. Telephone: Mayfair 8641-46.

The Director, The Scottish Building Centre, 425-7 Sauchiehall Street, Glasgow, C.2.

Telephone: Douglas 0372.

Fork lift trucking. Under the auspices of the Anglo-American Council on Productivity, a specialist team visited America in 1950 to study American methods of freight handling, and their report has now been published. The section of the report that is of most interest to architects is that dealing with palletization and unit loads, as this affects factory and workshop lay-out. The report states that, between America and Britain, no startling difference in the standard of achievement is apparent, but that there are important variations in technique, in the attitude of mind to mechanization, and in the degree to which particular methods of handling, common to both, have found favour in one country more than another.

The report goes on to say that in America the use of mechanical equipment is encouraged by managements and generally accepted by employees, who normally have a fundamental objection to any unnecessary expenditure of physical effort where a machine or contrivance can be used to avoid it. The report supports this statement by quoting the case of an American gentleman seen sitting on a small trolley, about 6 in. high, with an extension to hold his paint-pot, while he propelled himself along in carrying out his task of painting white lines on a large warehouse floor.

With that example in mind we can leave the report for a while and consider some aspects of the subject that may apply to Britain, and in doing so we are helped by a booklet produced by Coventry Climax Engines, Ltd., dealing with fork lift trucking, and illustrated with amusing drawings showing what not to do when using a truck. Other drawings give operational information in a less light vein.

The use of these trucks speeds the transport of goods within a factory, but there are one or two points which the firm suggest should be taken into account when the lay-out is being considered: long aisles should be widened at intervals of about 100 ft. to allow the largest laden trucks to pass; ramps should have the minimum gradient practicable, and if the swiftest movement of trucks is desired, doors should preferably be opened by means of

photo-electric cells or by readily available pull rope switches or buttons.

It has been observed that the power fork truck imposes a dynamic load to the floor of approximately 25 per cent beyond the static weight of the loaded truck, but 50 per cent has been suggested as a safe figure for the increase.

It is interesting to watch these fork trucks at work: to see them skilfully driven up to a pile of goods so that the forks engage in the slots of the pallet, then to see the whole pile raised by the forks up the 'jib' and the truck rattle off to the required stacking point, where it lowers its load with surprising precision, depending, of course, on the expertness of the driver.

The booklet gives information and diagrams on the scientific utilization of storage space which are worth study by those concerned with factory design.

The productivity report can be obtained from the Anglo-American Council on Productivity, 21 Tothill Street, London, S.W.1, price 2s. 6d., post free; and the booklet from Messrs. Coventry Climax Engines, Ltd., Widdington Road Works, Coventry, price 7s. 6d.

Ministry of Works. Annual Report for 1950. The report records that on 1 April 1950 the Chief Scientific Adviser's Division of the Ministry was transferred to the Building Research Station of the D.S.I.R. as it had become clear that economies in staff and expenditure could be made by amalgamating the two principal Government building research bodies. Thus sociological and economic research were added to the responsibilities of the B.R.S.

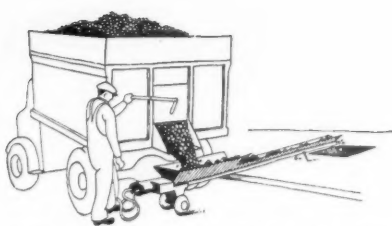
The value of building materials exported in 1950 was £20 million; building fitments £18½ million. Only a comparatively small volume of building materials and fitments was imported, 198,807 applications for building licences were received, and licences to a value of £240,146,000 were issued. Fifty successful proceedings were instituted by local authorities for contravention of the licensing regulations; fines totalling £6,617. Release of requisitioned buildings used as offices amounted to 1,162,000 sq. ft. in London, and 1,430,000 sq. ft. in the provinces and Scotland. During the year a

further area of 150,000 sq. ft. of single storey offices was begun in the outskirts of London. In the provinces an area of 205,000 sq. ft. of comparable accommodation was completed, and a further 279,000 sq. ft. were under construction, the figure for Scotland being 207,000 sq. ft. The task of compensating people whose railings were requisitioned during the war was nearly finished; £404,000 being paid during the year. The report is published by H.M.S.O., price 1s. 6d., net.

National Building Studies. Special Report No. 12. *Mining subsidence effects on small houses.* This report deals only with the effect on small houses of subsidence in coal-mining districts, these being the areas in which the great majority of subsidence problems arise. The introduction states that the term *subsidence* has tended to obscure the fact that horizontal movements of the surface always accompany vertical movements. Damage results from differential movements; uniform vertical settlement of a building will not cause any structural damage, nor will simple horizontal translations of the building as a whole. The principal effect on a building of differential vertical movements is to cause bending or tilting; the principal effect of differential horizontal movements is to create forces which tend to crush the building or to tear it apart. Complete protection of houses against damage by all movements due to subsidence is generally impracticable and uneconomic, but if care is taken in the selection and planning of sites, houses can be made more resistant by making a number of simple changes in the normal design without a large increase in the cost.

The report then explains and illustrates the nature of subsidence produced by mining operations; this is followed by photographs showing damage done to houses, and then by recommended precautions. Buildings should be so sited that the shorter axis coincides with the direction of anticipated maximum curvature due to subsidence. A structure of simple box form, designed to act as a unit, is best suited to resist damaging effects. Terraces of houses should be avoided, because the smaller the plan of the building, the less likelihood there is of damage; but if it is wished to have terraces they should be built in units with adequate gaps between them, to permit movement. Semi-detached houses are preferable to terraces, and detached houses to semi-detached.

The most suitable form of house is that in which the beam and stiffening qualities of the internal and external walls are developed as much as possible; load-bearing internal walls should be continuous from foundation to eaves level and be bonded to the main walls. Openings should be kept as small as other considerations permit. Windows and doors should have substantial widths of brickwork around them, and arched lintels should not be used. Door openings have a more weakening effect than windows and are best placed in the shorter sides of the building, but if placed in the longer sides they should be in



Delivery of fuel by light mobile belt conveyor and tipping lorry

the middle rather than the ends. Front and back doors should not be opposite each other.

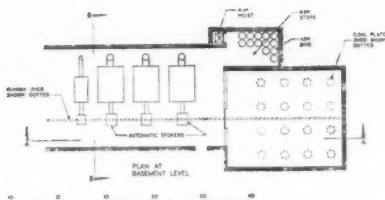
Protection against damage by differential horizontal movements may be obtained by building on a lightly-reinforced concrete base slab which is bedded on fine granular material covered with stout waterproof paper. The weakest mortar, consistent with the load-carrying requirements of the walls, should be used.

An appendix deals with structural precautions in the design of a pair of semi-detached houses. Drawings are given of a pair of normal two-storey semi-detached houses, followed by others showing how the same plans can be modified to make them more suitable for mining districts. Schemes and calculations are given for the reinforcement of the suggested rafts. The report is published by H.M.S.O., price 1s. 9d. net. S.O. Code No. 70-644.

The delivery and storage of solid fuel. Much has been written about the most efficient use of solid fuel and the appliances in which it should be burnt, but not so much has been written on the most efficient method of delivering and storing fuel. The Coal Utilisation Joint Council have recently issued a booklet called 'Architectural design data for solid fuel. Delivery, storage, handling for larger types of buildings', which gives all the information anyone could reasonably want on the subject; it has been written and illustrated by Mr. John Pinckheard [4].

In his introduction Mr. Pinckheard says that the book is not 'intended to provide the architect with a substitute for the specialist services of the consultant heating engineer. Knowledge on the part of the architect of the plan requirements of boiler rooms and fuel stores, which will enable him to give them due consideration while the design is still at the sketch plan stage, can only make the engineer's task simpler; it can not supplant him'.

The booklet begins with a table giving the cost per useful therm of fuels at various thermal efficiencies, followed by another on the space required for different types of solid fuel. It appears that during the first few months of storage coal suffers a certain amount of deterioration, whether stored in the open or under cover, but the loss in calorific value rarely exceeds one per cent, which is less than the variation in the efficiency of utilization. Although the booklet is not intended for the occupants of small houses they will no doubt be relieved to learn that spontaneous combustion is



Plan and sections of an office building with basement heating chamber and fuel store; being one of the several schemes for different buildings illustrated in the C.U.J.C. booklet on fuel storage

not a serious risk in stocks of less than 200 tons, and so, in their case, the danger is somewhat remote.

Open air storage is then considered, illustrated by appropriate diagrams of storage accommodation; the next section deals with storage within buildings; this section is followed by one on ash removal, and here Mr. Pinckheard helps by giving a table showing the maximum ash production in cubic feet of ash per ton of fuel burned.

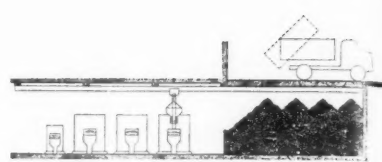
Further sections deal with labour-saving methods of fuel delivery and the requirements of different types of buildings. Two appendices contain notes on the construction of retaining walls for open air storage bays and the approximate estimation of fuel requirements. Copies of the booklet can be had from the C.U.J.C., 3 Upper Belgrave Street, London, S.W.1, price 7s. 6d. net.

Homes for old people. The National Corporation for the Care of Old People have issued a booklet containing notes on buying and converting property for use as homes for old people. The Corporation hope that the notes will be useful to committees and their advisers who are thinking of buying property for adaptation, as frequently the Corporation do not hear about a proposal for conversion until they are approached for grant aid, and their experience shows how easy it is for the sponsors of a scheme to overlook the importance of choosing premises capable of being suitably adapted at a reasonable cost. A group of professional men and laymen was therefore asked to consider what information and guidance could be provided for sponsors of conversion schemes, and the booklet has been prepared on the basis of the advice given by the group.

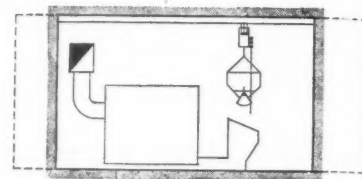
The booklet stresses that any attempt to dispense with professional advice at the outset will almost certainly lead to waste of money and to the possibility of being saddled with a white elephant. The notes deal with choice of premises, legal problems, the Town and Country Planning Act, 1947, residents' accommodation, staff accommodation, various methods of heating, and finally, homes for the infirm. The Corporation have a panel of experts whose advice is freely available in connection with technical problems.

Copies of the booklet may be had from the Corporation, 33 Doughty Street, W.C.1, free of charge.

Codes of Practice recently published. C.P.121.101(1951). *Brickwork*. This Code



Section A-A



Section B-B

deals with brickwork in general and with the erection of brick walls in particular, the bricks considered being clay, sand-lime, or concrete. After a series of definitions, notes are given on bricks for use below damp-proof course, for facing work, for external brickwork between damp-proof course and eaves: for parapets, copings, external free-standing walls and retaining walls, and for internal work. Then follow recommendations for mortar. The section on design considerations includes structural stability, exclusion of rain, suitability of walls for various exposures, fire-grading, sound insulation, control of shrinkage, cracking and durability. Recommendations are given on damp-proof courses and where they should be provided, and also on mortars and their preparation. After tables on air-to-air heat transmittance coefficients and sound insulation data, a series of drawings show recommended designs for damp-proofing in various positions. The Code can be obtained from the British Standards Institution, price 6s., post free.

British Standards recently published. B.S.812:1951. *Methods for sampling and testing of mineral aggregates, sands and fillers*. This Standard is a revision of the 1943 edition: it brings up to date and co-ordinates the test methods for the various uses of the materials. The arrangement has been altered to allow all tests of a similar kind to be grouped under one heading. A new section gives rock and mineral names in detail. Price 6s., post free.

B.S. 644. Part I. 1951. Wood casement windows. This revision has been prepared to improve the general durability of the casement windows covered by the 1945 edition. The profiles have been modified to give greater strength, with only a very small increase in the timber content. Where glazing bars are not fitted the casements are given deeper bottom rails. While it has been felt that the flush sill has many advantages, two alternative types of projecting sills are shown, to meet the demand, and these will be available if required by the purchaser.

Casement doors and frames are omitted, as suitable ones are now included in B.S. 459 and 1567 respectively. A table and appendices give the daylight areas and glass sizes. Drawings show the various members in plan and section. Price 3s. net, post free.

Notes and Notices

NOTICES

R.I.B.A. Distinction in Town Planning

The R.I.B.A. Distinction in Town Planning is by conferment only, and is limited to Fellows, Associates, and Licentiates of the R.I.B.A.

The distinction is the highest award in Town and Country Planning that the R.I.B.A. can bestow. It is solely intended for members of the R.I.B.A. who have made an outstanding contribution in the field of large scale planning. Recommendations are submitted to the Council by a Standing Committee set up for the purpose.

Personal applications by candidates will not be entertained; the name of a candidate must be submitted by three sponsors, themselves members of the R.I.B.A., who will be required to submit the following particulars on behalf of the candidate:

(a) Details of professional qualifications and experience;

(b) Evidence of his work and experience, such evidence consisting of a list of the candidate's work, together with references to professional journals in which the works have been illustrated; and such other evidence as may assist the Committee in making their recommendation to the Council.

Nominations should be made twice annually on 1 March and 1 November, and should be addressed to the Secretary, R.I.B.A.

Members upon whom the Distinction has been conferred will be entitled to use the designation "R.I.B.A. Distinction in Town Planning", and it is advised that this should be used in full, or the initials "R.I.B.A. Dist. T.P." after the initials F.R.I.B.A., A.R.I.B.A., or L.R.I.B.A., according to the class of membership to which they belong.

BOARD OF ARCHITECTURAL EDUCATION

R.I.B.A. Maintenance Scholarships in Architecture

The following Maintenance Scholarships have been awarded for the year 1951-52:

An R.I.B.A. Houston Maintenance Scholarship of £125 to Mr. Duncan S. Bremner, of Aberdeen.

An R.I.B.A. Houston Maintenance Scholarship of £125 to Mr. Bryon E. Clack, of London, S.W.10.

An R.I.B.A. Houston Maintenance Scholarship of £125 to Mr. Alexander G. H. Morrow, of London, N.6.

An R.I.B.A. Houston Maintenance Scholarship of £125 to Mr. William B. Sidnell, of Wallington, Surrey.

The Maintenance Scholarships previously awarded to the following candidates have been renewed:

Mr. J. F. Vergette (Welsh School of Architecture, The Technical College, Cardiff—Howe Green 4th and 5th Year Maintenance Scholarship of £40 per annum).

Mr. C. E. I. Nops (Architectural Association—R.I.B.A. 4th and 5th Year Maintenance Scholarship of £60 per annum).

Mr. A. G. Diprose (Architectural Association—Ralph Knott Memorial Maintenance Scholarship of £45 per annum).

Mr. Geoffrey Hill (Leeds School of Architecture—Hartley Hogarth Maintenance Scholarship of £21 per annum).

Mr. J. B. Crowther (Welsh School of Architecture, The Technical College, Cardiff—R.I.B.A. Houston Maintenance Scholarship of £125 per annum).

Mr. D. G. Potter (School of Architecture, The Polytechnic, Regent Street, London—R.I.B.A. Houston Maintenance Scholarship of £125 per annum).

Mr. H. R. Brady (Bartlett School of Architecture, University of London—THE BUILDER Maintenance Scholarship of £68 per annum).

COMPETITIONS

City of London (Golden Lane) Housing Scheme

The Corporation of London invites architects to submit designs in competition for a new housing scheme in Golden Lane, E.C.

Assessor: Mr. Donald H. McMorran [F].

Premiums: 1,000 gns., 700 gns., 500 gns., 300 gns.

Last day for submitting designs: 31 January 1952.

Conditions may be obtained on application to the Town Clerk, Corporation of London, 55-61 Moorgate, E.C.2.

Deposit 2 gns.

Technical College, Poole

The Dorset County Council invite architects to submit designs in competition for a College of Further Education at Poole, Dorset.

Assessors: Mr. Julian Leathart [F] (nominated by the R.I.B.A.), Mr. S. A. W. Johnson-Marshall, B.Arch. [A] (Chief Architect, Ministry of Education), Mr. H. E. Matthews [F] (County Architect, Dorset), Mr. J. Haynes, M.A. (County Education Officer, Dorset), Mr. H. J. Shelley, O.B.E. (Chief Inspector, Ministry of Education).

Premiums: £1,000, £500, £300.

Last day for submitting designs: 31 October 1951.

Conditions may be obtained on application to the County Education Officer, County Hall, Dorchester, Dorset.

Deposit £1 ls. made payable to the County Treasurer.

COMPETITION RESULTS

Rebuilding of Coventry Cathedral

1. Basil Spence, O.B.E. [F].

2. W. P. Hunt, M.A., A.M.T.P.I. [A].

3. Major A. D. Kirby [A].

Special Mention: Rolf Hellberg [F], Messrs. Tischler and Hildebrand [A/A].

Mention: Albert D. Cordner, A.M.T.P.I. [A]; D. A. Lumsden [F] and Harry Gibberd [A]; Professor A. E. Richardson, R.A. [F], E. A. S. Houfe [F], S. P. A. Holland [A] and J. R. Stammers [A]; Terence Carr [F]; The Peter Dunham Group [F/A/A/L]; G. E. Charlewood, T.D. [F] and Alan Fitch [A]; T. Mellor, B.Arch. (L'pool), A.M.T.P.I. [A] and J. A. Ashworth, B.Arch., A.M.T.P.I. [A].

Proposed New Technical College, South Shields

1. J. D. Meade Taylor, M.A. (Cantab) [A] and Joyce V. Wilson, A.A.Dipl., A.M.T.P.I. [A].

2. C. W. H. Wright [A] and Michael R. Crux [Student].

3. Messrs. J. S. Harris [F] and Gard. Commended: A. G. Price [A].

Royal National Eisteddfod of Wales, 1951

1. E. Langford Lewis [Student].

2. I. F. Lewis.

3. L. A. Williams.

ALLIED SOCIETIES

Changes of Officers and Addresses

Essex, Cambridge and Hertfordshire Society of Architects: The address of the Hon. Registrar, Mr. C. S. Jaques [A], is now 33 Middleton Road, Shenfield, Essex.

South Eastern Society of Architects, Brighton Chapter: Chairman, Mr. F. R. Steele, F.R.I.C.S., M.T.P.I. [F], County Architect, West Sussex County Council, North Street, Chichester. Hon. Secretary, Mr. F. A. Crouch [A], 36 Leicester Villas, Hove, 3.

Province of Quebec Association of Architects: Hon. Secretary, Mr. Henri Mercier, 620 Cathcart Street (Room 761-764), Montreal, P.Q.

Orange Free State Provincial Institute of Architects: Hon. Secretary, Mr. P. Visser, 25 National Mutual Buildings, Maitland Street, Bloemfontein, O.F.S.

Architectural Exhibition: The Buckinghamshire Society of Architects

The Bucks Society of Architects recently held an Exhibition of Housing Work. The Exhibition was held in the Public Libraries at High Wycombe for one week and in Slough one week at a later date. It is hoped, if suitable accommodation can be found, to hold this Exhibition in Aylesbury in the near future.

Both Exhibitions were well attended, and that in Wycombe was opened by Councillor Brocklehurst, Vice-Chairman of the Bucks County Works Committee. The one in Slough was opened by the Mayor of Slough, Alderman Lightfoot, J.P.

An interesting feature of the Exhibition was a panel showing the relationship between the Architect, Quantity Surveyor, Contractor and Tradesmen on the site, together with photographs of housing work in progress.

It was originally intended to display only the work of members of the Society, but the Committee later extended an invitation to local authorities in the county to exhibit examples of their housing designs. The work exhibited covered all types of housing, both pre-war and post-war, including flats, private housing work, local authority housing work and police housing schemes.

GENERAL NOTES

Rome Scholarship

Candidates wishing to enter for the Rome Scholarship in Architecture 1952 are reminded that applications for admission to the competition must be submitted before 12 October 1951 to the Hon. General Secretary, British School at Rome, 1 Lowther Gardens, Exhibition Road, London, S.W.7.

The Foundations of Architecture

A course of lectures on 'The Foundations of Architecture' is being given at the L.C.C. City Literary Institute, Stukeley Street, Drury Lane, W.C.2, by Mr. Percy M. Andrews [F]. Lectures are on Friday evenings, beginning 28 September, from 7.15 to 9.15. They will be illustrated by lantern slides and epidiaseope, and in addition Saturday visits to places of architectural interest in and near London will be arranged. Further particulars can be obtained from the Principal.

R.I.B.A. Cricket Club

The R.I.B.A. Cricket Club have this season played five matches, of which they won two and lost three. In the games lost against Blue Circle and the R.I.C.S. the results were very close.

The closing fixture of the season against the Club Cricket Conference was a particularly enjoyable game; although the result looks to be an overwhelming defeat, this was not quite

the case, and particular credit is due to the R.I.B.A. bowlers, who maintained a constant attack, as the Conference side scored their 201 runs in 65 overs.

The Club membership has increased, but the Hon. Secretary reports that new members are always welcomed. It is hoped to hold the Club Dinner at the end of the year or early in 1952. Anyone interested should apply to: R. R. Fairbairn [A], 81 Piccadilly, W.1.

RESULTS

v. Blue Circle C.C. (on A.A. Ground), 3 June

1951: R.I.B.A. 49, Blue Circle 50 for 7. Lost by 3 wickets.

v. A.A. (A.A. Ground), 27 June: R.I.B.A. 66 for 3, A.A. 61. Won by 7 wickets.

v. The Vitruvians (A.A. Ground), 18 July: R.I.B.A. 187 for 8 declared, The Vitruvians 180. Won by 7 runs.

v. R.I.C.S. (College of Estate Management Ground, Hinchley Wood), 1 August: R.I.B.A. 66 and 88 for 9, R.I.C.S. 79 and 76 for 2. Lost by 8 wickets (2 innings match).

v. Club Cricket Conference (Guildford), 23

August: C.C.C. 201 for 4 declared, R.I.B.A. 118. Lost by 83 runs.

London: An Adventure in Town Planning

The Institute of Contemporary Arts is holding an exhibition of work done by staff and students of the Architectural School, Polish University College, London, under Professor Smigielski. The exhibition, which was opened on 12 September by Professor Holford, M.T.P.I. [F], is open until 6 October, weekdays, 10 a.m. to 6 p.m.

Members' Column

This column is reserved for notices of changes of address, partnership and partnerships vacant, or wanted, practices for sale or wanted, office accommodation, and personal notices other than of posts wanted as salaried assistants for which the Institute's Employment Register is maintained.

APPOINTMENTS

Mr. R. Dickinson [A] has been appointed Chief Architect, P.W.D., Sudan Government, Khartoum, Sudan. He will be pleased to receive trade catalogues etc. addressed to him personally from all firms willing and able to supply materials and/or plant to Sudan F.O.B. without undue delay. Prices delivered Port Sudan should be given where possible.

Mr. A. Naglovsky Martel [A] has taken up the appointment of Head of the Architectural Department of Rivero-Rodriguez Ingenieros S.A., Ingenieros y Constructores, Edificio Riv-Rod, Calle Maria Teresa Toro, Urbanizacion Las Acacia, Caracas, Venezuela, South America, where he will be pleased to receive trade catalogues from manufacturers exporting to South America.

Mr. James C. Morgan, A.M.T.P.I. [A], has taken up an appointment with the County Planning Department, Lindsey County Council, The Castle, Lincoln, where he will be pleased to receive trade catalogues etc.

Mr. Patrick F. M. Steane [L] has been appointed Chief Architect/Engineer to the Directorate of Installations and Maintenance, Headquarters, 3rd Air Force, U.S.A.F., South Ruislip, and will be pleased to receive trade catalogues etc. Representatives are requested not to call.

Mr. G. R. Toogood [A] has taken up the appointment of Architect to the Regent Oil Co. Ltd., at 117 Park Street, London, W.1, where he will be pleased to receive trade catalogues etc.

Mr. Stanley Wilkinson [A] has been appointed Senior Lecturer in Architectural Construction, School of Architecture, University of Liverpool. Mr. Wilkinson, who is 33 years of age, has been Lecturer and Studio Instructor in the Liverpool School since November 1946.

PRACTICES AND PARTNERSHIPS

Mr. Baron Bercott, A.M.T.P.I. [A], is now practising at 118 Blythswood Street, Glasgow, C.2 (Central 2967), and will be pleased to receive trade catalogues, samples etc.

Messrs. Cathcart, Hendry and Cathcart announce that as from 1 April 1951 the name of the Umtali Branch will be changed to **Cathcart, Hendry and Creasy**. The partners are as before, W. D'Arcy Cathcart [F], W. Fyfe Hendry [F], R. D'Arcy Cathcart [A] and J. William Creasy [A]. They will continue to

practise from Premco Buildings, Second Street, Umtali, Southern Rhodesia.

Mr. J. H. Cheetham [A] has commenced practice at 19 Bold Street, Warrington, Lancs, where he will be pleased to receive trade catalogues etc.

Mr. Julian Leathart [F] and **Mr. John P. Tingay [A]** announce that they have taken into partnership **Mr. John Anthony Leathart [A]** as from 5 September 1951. The name of the firm will be changed to **Leathart, Son and Tingay**.

Mr. R. Oxley [A] and **Mr. L. J. Bussey [A]** have entered into partnership under the style of **Oxley and Bussey** at 5 Cambridge Street, Sheffield, 1, and will be pleased to receive trade catalogues, samples etc.

CHANGES OF ADDRESS

Mr. L. E. Billson [L] has removed to 121 St. Peter's Street, The Spot, Derby.

The address of **Mr. and Mrs. Bolland (F. S. and M. U. Bolland [A/A])** will, from 1 January 1952, be 'Klein Welgemeend', Lincoln Road, Lakeside, Capetown, South Africa.

Miss Elaine C. Denby [A] has removed from 51 Hamilton Gardens, N.W.8, to 20f Queen's Gate Place, London, S.W.7, and will be pleased to receive trade catalogues at that address.

The new address of **Mr. A. Naglovsky Martel [A]** is Ap. 1486, Caracas, Venezuela, South America. All correspondence should be sent by air mail.

Mr. E. John Scollay [A] has removed from 52 McKintay Street, Narrabundah, Canberra, to 37 Strzelecki Crescent, Narrabundah, Canberra, A.C.T., Australia.

The new address of **Mr. Alan Woods [A]** is c/o Public Works Department, P.O. Box 81, Causeway, Salisbury, Southern Rhodesia.

Correction

Messrs. Clayton and Black and Partners ask us to say that in the notice published under the heading 'Changes of Address' in the August JOURNAL they inadvertently gave their address as 16 Grenville Place. The correct address is 16 Grenville Street.

PRACTICES AND PARTNERSHIPS

WANTED AND AVAILABLE

Associate, A.M.T.P.I., seeks partnership in practice with some country work; 20 years' varied experience. Accustomed to taking complete charge of work and office. Some capital available. Box 69, c/o Secretary, R.I.B.A.

Partnership offered in practice in the South West. Knowledge of agricultural work and specification writing essential. Applicants should give age and experience. Box 71, c/o Secretary, R.I.B.A.

An opportunity occurs owing to death of principal for a member to purchase a busy practice in South East Devon. Replies in confidence to Box 72, c/o Secretary, R.I.B.A.

Member wishes to purchase a practice in Newton Abbot, Devon, with office, furniture and work in hand. Box 74, c/o Secretary, R.I.B.A.

Associate (32), varied experience, seeks junior partnership in general practice or responsible post leading thereto, preferably in S. or S.W. coastal area. Box 75, c/o Secretary, R.I.B.A.

Wanted to purchase, small general practice. South coast preferred. Box 76, c/o Secretary, R.I.B.A.

Fellow requires practice or partnership in Southern England. Limited capital available. Replies in confidence. Box 77, c/o Secretary, R.I.B.A.

Fellow (R.I.B.A. Prizeman) requires partnership where his creative powers may be fully employed and exceptional draughtsmanship appreciated. London only. Box 78, c/o Secretary, R.I.B.A.

Associate, aged 29, seeks partnership with preference for salaried position as a preliminary to assuming partnership. Box 79, c/o Secretary, R.I.B.A.

WANTED AND FOR SALE

Retired Licentiate wishes to dispose of a number of surveying and drawing instruments, all in good order. List and price on application to Box 68, c/o Secretary, R.I.B.A.

Unbound copies of the JOURNAL for years' 1932 to 1950, in good condition, for disposal. Offers invited. Box 70, c/o Secretary, R.I.B.A.

Wanted: vertical planfile (steel), complete with pockets and folders; size approximately 42 in. high, 31 in. deep and 48 in. wide. Please state price and particulars. Box 73, c/o Secretary, R.I.B.A.

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